

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

Course Title: National Electrical Code
Quarter Course Prefix and Number:
Semester Course Prefix and Number: EIAT1265

Approval Date:
Revision Date:

Number of Credits: 1 **Number of Lecture Credits:** 1 **Number of Lab Credits:** 0
Semester(s) Offered: **Number of Studio/Discussion Credits:**

Course Purpose Code:

- 0 – Developmental Courses
- 1 – Non-Transferable General Studies
- 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 course is an introductory course to the National Electrical Code. The course covers the lay-out of the code book, definitions of terminology used in the *Code*, and a review of code sections related to industrial wiring. The course provides practice in locating and applying articles from the *Code* to solve specific electrical design problems and/or calculation parameters needed for the sizing and selection of equipment and material.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): EIAT 1253, EIAT 1233, EIAT 1243, EIAT 1295, & EIAT 1244
Reading Prerequisite:
Composition Prerequisite:
Mathematics Prerequisite:

Career Programs and Transfer Majors Accessing this Course:

Electrical & Industrial Automation Technology

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 Vice President of Academic Affairs 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:

The following list of course goals will be addressed in the course:

1. describe the purpose, scope, and jurisdiction of the National Electrical code.
2. identify the arrangement of the National Electrical Code Book.
3. define terms that are important to the proper application of the Code.
4. identify and apply the rules associated with ungrounded conductors, branch circuits, and feeders outside wiring.
5. make calculations to determine the code requirements for the sizing of branch circuits, feeders, and services.
6. identify and apply the rules associated with services and circuit protection
7. define terms associated with service equipment and overcurrent protection.
8. identify and apply the rules associated with services and circuit protection
9. identify and apply the rules associated with the methods and materials used in wiring.
10. define terms associated with methods and materials
11. determine wire sizes and types for wiring
12. identify and apply the rules associated electrical boxes and fittings.
13. define terms associated with electrical boxes and fittings.
14. calculate the size boxes and fittings needed in electrical installations
15. identify and apply the rules associated motors and motor control circuits .
16. define terms associated with motors and motor control circuits.
17. select sizes of control wiring and devices for motors.

Possible student assessment methods:

Lecture assignments and tests, Lab exercises tests

Use of instructional technology (includes software, interactive video and other instructional technologies):

Power-Point lecture, Videos

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

The course focuses on the *National Electrical Code* sections related to industrial wiring and electrical maintenance. Practice in locating specific code sections and interpretation of code terminology. Practice in calculations for the sizing of wire and raceway and specifications of motor control equipment.

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

Lab Fee

APPROVALS:

Body	Representative Signatures	Date
Curriculum Committee		
Faculty Association		
Meet and Confer		
Vice President of Academic Affairs		

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