MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

Course Outline

Course Title: National Electrical Code
Semester Course Prefix and Number: PAS 1265
Old Quarter Course Prefix and Number:

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

Number of Credits: 2
Semester(s) Offered: Spring
Class Size: 24
Negotiated by AASC on: (date)

Number of Lecture Credits: 2
Number of Lab Credits: 0 **Number of Lab Hours:** 0
Number of Studio/Demonstration/Internship Credits:

Course Purpose Code:

_____ **0** – Developmental Courses
_____ **1** – Non-transferable, General Education
__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 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 an introduction to the National Electrical Code (NEC). The course covers the layout of the code book, definitions of terminology used in the NEC, and a review of code sections related to industrial wiring. The course provides practice in locating and applying articles from the NEC 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): 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.)

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)

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

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, feeders and 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 overcorrect 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.

Student Assessment Methods:

Lecture assignments and tests.

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

Power Point Software, videos, D2L, Moodle

Outline or Statement of Major Course Content:

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

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	Anna R. Rohn	11-29-11
Faculty Association	Sue Devereux	12-5-11
Academic Affairs Standards Committee	Anna R. Rohn	11-29-11
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