MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

Faculty are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Collegewide Curriculum Committee.

COURSE TITLE: Residential Wiring I                  COURSE NUMBER: ELEC 1200

COURSE DESCRIPTION:
This course covers electrical safety, general safety, and the use and care of hand tools, specialty tools, and equipment used for residential wiring. The course introduces basic wiring circuitry and the related N.E.C. articles for residential wiring. Also covered is an introduction to N.M. and U.F. cables and their uses.
5 credits (2 lect/pres, 3 lab, 0 other)

COURSE GOALS:
The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives. (*designates a CRUCIAL goal)

1. wire furnace and Air conditioner
2. apply National Electrical
3. use power tools
4. identify wiring symbols
5. describe branch circuit requirements
6. describe box types
7. describe switch type and rating
8. describe junction box requirements
9. list outlet general requirements
10. describe GFCI protection
11. calculate box fill
12. install GFCI protection
13. draw cable layouts
14. calculate occupied floor area
15. install common neutral three-wire circuit
16. describe small appliance branch circuit
17. calculate general lighting load
18. select proper small appliance conductor
19. calculate minimum branch circuit number
20. describe split circuit receptacle circuit
21. wire split circuit receptacle circuit
22. install multioutlet assemblies
23. describe cable types
24. describe laundry requirements
25. install exhaust fan
26. install laundry circuit
27. describe wire connector types
28. describe wire insulation
29. install NMC circuits
30. estimate branch circuit wattage
31. use ground clips screws
32. identify special outlet symbols
33. identify cable fittings
34. describe water heater operation
35. describe circuit grounding requirements
36. identify cable conductors
37. identify lighting toggle switches
38. describe dryer installation requirements
39. wire dryer installation
40. describe switch operations
41. describe range installation requirements
42. demonstrate switch wiring connections
43. sketch switch wiring connections
44. install range circuit
45. describe lighting fixtures
46. install lighting fixtures
47. describe garage door opener requirements
48. install garage door opener circuit
49. calculate range demand load
50. describe recessed fixture requirements
51. describe appliance disconnect requirements
52. install recessed fixture
53. describe conductor terms and temperature restrictions
54. install lighting lamp
55. install special outlet circuit
56. describe humidistat operation
57. describe outdoor lighting requirements
58. install boxes
59. install television signal outlets
60. describe track lighting
61. install telephone system
62. install signal systems
63. install three way switch circuits
64. describe fire alarm system requirements
65. install four way switch circuits
66. make pigtail splices
67. install fire alarm system
68. describe low voltage lighting systems
69. rough in switch boxes
70. install dimmer control
71. describe electrical service
72. describe mast type service requirements
73. describe underground service requirements
74. describe service disconnect requirements
75. describe subpanel requirements
76. prepare circuit schedule
77. describe bonding requirements
78. describe grounding requirements
79. calculate power cost
80. describe dual element fuse operation
81. describe circuit breaker operation
82. describe fuse breaker interrupting rating
83. calculate short circuit current
84. calculate method one service size

ATTENDANCE:
Students will be required to attend a minimum of 95% to satisfactorily complete this course.

"This course will cover the characteristics of hazardous wastes and its safe handling, storage, and disposal."

The information in this course outline is subject to revision

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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