



# Wayne County Community College District

## COURSE SYLLABUS

### EE 103 Residential Wiring

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**CREDIT HOURS:** 3.00

**CONTACT HOURS:** 45.00

**COURSE DESCRIPTION:**

This course covers electrical symbols, schematic diagram, terms, series and parallel circuits, Ohm's Law, repair and operation of single phase motor and three phase motor controls. Also, lighting-both incandescent and fluorescent, lighting and ballast specifications, safety precaution and troubleshooting techniques, identification of load and control circuits, load common and ground connection. Use of electrical lighting instruments, multimeters, other circuit testing instruments. Ground fault circuit interrupters (GFCI), receptacles and circuit breakers.

**PREREQUISITE:** EE 101

**EXPECTED COMPETENCIES:**

Upon successful completion of this course, the student will be able to:

- Understand the operation and basic repair of analyzer, single and three phase motors.
- Understand electrical symbols, schematic drawings and electrical prints.
- Understand the function of safety analysis under ohm's law and will be able to use in the field.
- Understand the operation and basic repair of analyzer, single and three phase motors.
- Identify fluorescent and incandescent lighting & specifications, etc.
- Install surface and conduit wiring, etc., etc.
- Demonstrate safety pre cautions and troubleshooting techniques.
- Identify motor starters & motor protectors.
- Explain electron theory for currents, conductors & insulating materials, DC and AC; electrical circuits make up, differentials series & parallel circuits, etc.
- List and describe electrical circuit components; discuss the sizing of the conductors; compute voltage.
- Select essential tools for electrical wiring and discuss basic principle of tool usage and care.
- List basic safety rules applying to electrical wiring, etc, etc.

**ASSESSMENT METHODS:**

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

**GRADING SCALE:**

90%-100% = A  
80%-89.9%= B  
70%-79.9%= C  
60%-69.9%= D  
<60% = E