

## **COURSE INFORMATION:**

<b>Course Prefix/No.:</b>	EEM 121
<b>Course Title:</b>	Electrical Measurements
<b>Lecture Hours/Week:</b>	3.0
<b>Lab Hours/Week:</b>	0.0
<b>Credit Hours/Semester:</b>	3.0

[Distance Learning Attendance/VA Statement](#)  
[Textbook Information](#)

## **COURSE DESCRIPTION:**

This course covers the basic principles of electrical measuring instruments and how they are used in industries.

## **COURSE COMPETENCIES:**

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

### **Module 1 - Digital Multimeters**

- Demonstrate proper usage of a Fluke model 87V digital multimeter.
- Demonstrate proper usage of a Fluke model 179 digital multimeter.
- Demonstrate proper usage of a Fluke model 117 digital multimeter.
- Demonstrate proper usage of a Fluke model 337 clamp meter.
- Demonstrate proper usage of various types of accessories such as:
  1. Fluke i400 clamp accessory.
  2. Fluke TLK-225 Sure Grip master accessory.
  3. Fluke T5-1000 electrical tester.

### **Module 2 – Thermography and Temperature Testers**

- Demonstrate proper usage of a Fluke 62 Thermometer.
- Demonstrate proper usage of a Fluke Ti30 Thermal Imager.

### **Module 3 – Insulation Testers**

- Demonstrate proper usage of a Fluke 1587 Insulation Multimeter.
- Demonstrate proper usage of a Megger®.

### **Module 4 – Power Quality Testers**

- Demonstrate proper usage of a Fluke 43B Power Quality Analyzer.
- Demonstrate proper usage of a Fluke i400S Clamp accessory.

### **Module 5 – Other Test Equipment**

- Demonstrate proper usage of a Phase Rotation Meter.
- Demonstrate proper usage of an Oscilloscope.

## **STANDARDS:**

Assignments and attendance must be completed as designated in "Evaluation Strategies/Grading." Criteria for minimal acceptable performance will be provided by the instructor.

## **REQUIREMENTS:**

### **Attendance Policy**

The college attendance policy, stated in the college handbook, will be honored. The instructor will provide specific requirements for the course.

### **Academic Honesty**

Students are expected to adhere to the college policy regarding student conduct as stated in the college handbook.

### **Assignments**

Students are expected to complete all assignments and any supplementary exercises designated by the instructor.

## **EVALUATION STRATEGIES/GRADING:**

Successful completion of the course requires the completion of each module with an average of 70 points. Grades will be calculated from work attitude, all tests/projects, homework assignments, and laboratory assignments.

### **Grading Scale:**

A = 90.0 – 100  
B = 80.0 – 89.9  
C = 70.0 – 79.9  
D = 60.0 – 69.9  
F = 00.0 – 69.9

### **Evaluation Method:**

Tests/Projects (minimum of five total)	50% of each Module
Lab Work	25% of each Module
Work Attitude	25% of each Module

Each module counts	20% of final grade
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Work Attitude is defined as:

- Participation
- Cooperation
- Appearance
- Effort
- Safety
- Responsibility

- Professionalism
- Attendance
- Self Motivation
- Works Independently

**ENTRY LEVEL SKILLS:**

The student must be able to read and solve basic mathematical equations.

**PREREQUISITES/CO-REQUISITES:**

**Prerequisite:** RDG 031 or equivalent, MAT 032 or equivalent

**Co-requisite:** EEM 117

**METHODS OF INSTRUCTION:**

This course may be offered in traditional classroom format or as a self-paced, CD-based, hybrid delivery format.

Lectures, reading assignments, projects, discussions, video presentations, multimedia presentations, and web content are the major teaching methods used in this course.

**Disabilities Statement:** Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Offices (SR) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.

Effective: 2009FA