

# **NORTHEAST TEXAS COMMUNITY COLLEGE**

## **ELPT 1320 618 FUNDAMENTAL OF ELECTRICITY II**

**Fall 2025-2026**

**Cliff Hall , Instructor**

**ELPT 1320 618 Fundamentals of Electricity II**

## **I. Course Description:**

An introduction to basic alternating current (AC) theory including electron theory and alternating current applications.

## **II. Course Objective**

The student should be able to calculate values of voltage, current, resistance, and power in series, parallel, and combination circuits; connect practical circuits in the laboratory; use test instruments to measure electrical values; calculate wire size and resistance of different size conductors; demonstrate knowledge of batteries and magnetism; and demonstrate knowledge of AC generators and motors.

## **II. Textbook**

Basic Electrical Theory 3<sup>rd</sup> Edition

Mike Holt

Current "National Electric Code"

## **III. Tools**

No Tools Required

## **IV. Performance Objectives**

Demonstrate knowledge of the basic sub-atomic parts of an atom, give a definition of the law of charges, centrifugal force, and valence electrons.

Demonstrate knowledge of basic electrical values such as voltage, current, resistance, and power.

Demonstrate the ability to calculate electrical values for series, parallel, and combination circuits.

Demonstrate knowledge of how to determine different electrical values for series, parallel, and combination circuits.

Demonstrate the ability to calculate values of resistance, length, type of material, and size for conductors. Be able to determine different values of resistors.

Demonstrate knowledge of magnetism and basic magnetic measurements.

Demonstrate knowledge of electrical measuring instruments

Demonstrate knowledge of alternating current generators.

Demonstrate knowledge of alternating current motors.

## **V. GRADING**

All tests must have a 70% accuracy to be considered passing.

There will be a minimum of 2 tests all equal to 100%. Homework grades will all be counted and within the average of test grades. Attendance will also be factored in for grading, by following the NTCC handbook.

## **VI. Academic Dishonesty**

The college and your instructor expect all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuits. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action.

Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about

allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook.

## **VII. Attendance Policy**

Regular and punctual attendance at all scheduled classes is expected. Attendance is necessary for successful completion of course work. If you are absent, you are responsible for initiating procedures for make-up work if allowed. All course work missed, regardless of cause, is to be completed to the satisfaction of the instructor.

*More than three absences is considered excessive!* It is up to you to initiate a drop in the Office of Admissions and Records.

## **VIII. ADA Statement:**

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

## **IX. Family Educational Rights And Privacy Act (FERPA):**

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

**Course Description:** Introduces alternating current (AC). Includes AC voltage, frequency, mechanical and electrical degrees, waveforms, resistors, capacitors, and inductors.

**End-of-Course Outcomes:** Explain AC power waveform generation; define capacitance and inductance; determine the values of AC voltage, current, and impedance for circuits containing resistors, capacitors, and inductors; explain and calculate power factor in circuits; and utilize electrical measuring instruments.

I HAVE READ THE SYLLABUS FOR THIS COURSE AND UNDERSTAND WHAT IS REQUIRED TO

PASS. I UNDERSTAND THE EVALUATION AND GRADING POLICIES IN THIS COURSE. I

WILL FOLLOW ALL SAFETY AND CLASSROOM POLICIES BOTH WRITTEN AND VERBAL. ALL

QUESTIONS I HAD WERE ANSWERED BY THE INSTRUCTOR TO MY SATISFACTION.

COURSE NO. ELPT 1320 061 Fundamentals of Electricity II

Student Signature\_\_\_\_\_Date