

SYLLABUS

Code: UTIL 105

Title: Introduction to the Electric Utility Trades

Institute: STEM

Department: Engineering and Technologies

Course Description: This course is an introduction to the Electric Utility Technology program and related trades. The purpose of this course is to expose the student to the various careers and career paths available in the utility industries, as well as the educational requirements, and the tools of the utility worker. Various online readings, class discussions and student research projects will introduce the student to careers in the utility industry. Additionally, the course will survey the history of electricity, the electrification of and build out of the electric grid and new and emerging technologies in power generation. Through their studies, students will gain an appreciation for the role of the modern utility worker in current and future power generation and distribution. The course consists of one hour per week of lecture and upon successful completion of this course, the student will earn one credit. The student should have an interest in understanding the opportunities and challenges of electric utility lineperson or substation worker as a profession. (This course is only available for students selected for the Electric Utility Technology (EUT) program).

Prerequisites: none

Corequisites: none

Prerequisites or Corequisites: none

Credits: 1

Lecture Hours: 1

Lab/Studio Hours: 0

REQUIRED TEXTBOOK/MATERIALS: none

ADDITIONAL TIME REQUIREMENTS:

For information on Brookdale's policy on credit hour requirements and outside class student work refer to [Academic Credit Hour Policy](#).

COURSE LEARNING OUTCOMES:

Upon completion of this course, students will be able to:

- Describe the various professions and career paths available in the electric utility industry.
- Understand the educational requirements of an electric utility degree.
- Describe the tools of a "typical" electric utility lineperson or substation worker.

GRADING STANDARD:

Active participation in this course is required and expected. Attendance for all lectures is required.

1. **All assigned exercises must be performed according to schedule and submitted within two weeks for grading.** Late work may be penalized at the rate of 10% per week late.
2. The progress of the student will be evaluated by class participation, graded assignments, and on time submission of assigned exercises.
3. Students will research topics in the electric utility profession and present their findings to the class.

The following scale will be used to determine satisfactory progress on each assignment and for determining the final grade based on the following:

A	90 – 100
A-	87 – 89
B+	85 – 86
B	80 – 84
B-	77 – 79
C+	75 – 76
C	70 – 74
D	65 - 69
F	64 and below

COURSE CONTENT:

- EUT Curriculum Overview
- A Profession in the Electric Utility Trades
- The Tools of an Electric Utility Worker
- Brief History of Electricity:
 - Early Discoveries
 - Electrical Machines and Experiments with Static Electricity
 - Voltaic Electricity, Electrochemistry, Electromagnetism, Galvanometers, Ampere, Biot and Savart, Ohm
 - Faraday and Henry
 - Direct Current Dynamos and Motors
 - Improvements in Batteries, Electrostatic Machines, and Other Older Devices
 - Electrical Instruments, Laws, and Definitions of Units
 - Alternating Currents
 - New and Emerging Technologies
 - Geothermal
 - Solar/Photovoltaics
 - Wind
 - Hydro-electric
 - Bio-fuels
 - Energy storage/batteries
- Student Presentations

DEPARTMENT POLICIES:

College Policies:

As an academic institution, Brookdale facilitates the free exchange of ideas, upholds the virtues of civil discourse, and honors diverse perspectives informed by credible sources. Our College values all students and strives for inclusion and safety regardless of a student's disability, age, sex, gender identity, sexual orientation, race, ethnicity, country of origin, immigration status, religious affiliation, political orientation, socioeconomic standing, and veteran status. For additional information, support services, and engagement opportunities, please visit www.brookdalecc.edu/support.

For information regarding:

- ◆ Brookdale's Academic Integrity Code
- ◆ Student Conduct Code
- ◆ Student Grade Appeal Process

Please refer to the [BCC STUDENT HANDBOOK AND BCC CATALOG](#).

NOTIFICATION FOR STUDENTS WITH DISABILITIES:

Brookdale Community College offers reasonable accommodations and/or services to persons with disabilities. Students with disabilities who wish to self-identify must contact the Disabilities Services Office at 732-224-2730 (voice) or 732-842-4211 (TTY) to provide appropriate documentation of the disability, and request specific accommodations or services. If a student qualifies, reasonable accommodations and/or services, which are appropriate for the college level and are recommended in the documentation, can be approved.

MENTAL HEALTH:

- Mental Health Crisis Support: From a campus phone, dial 5555 or 732-224-2329 from an external line; off-hours calls will be forwarded to BCC police (2222 from a campus phone)
- Psychological Counseling Services: 732-224-2986 (to schedule an appointment during regular hours)

The syllabus is intended to give student guidance in what may be covered during the semester and will be followed as closely as possible. However, the faculty member reserves the right to modify, supplement, and make changes as the need arises.