

JUMP START

ELPT 1319 FUNDAMENTALS OF ELECTRICITY (2020 FALL SEMESTER)

Instructor: Paul Slovarp (979)482-0842

ELPT 1319 FUNDAMENTALS OF ELECTRICITY-Introductory-LAB RECOMMENDED

Course Description: Introduction to the Electrical Trade (Industrial, Commercial, Residential) including basic construction techniques, and electrical safety. An introduction to DC (direct current) theory including electron theory, and applications. Basic Principles of voltage, current, resistance, and wattage; and how to measure using applicable test equipment.

End-of-Course Outcomes: The student will explain atomic structure and basic electrical values such as voltage, current, resistance, and power; calculate electrical values for series, parallel, and combination circuits; summarize the principles of magnetism, Ohm's law, and utilize electrical testing equipment.

COURSE MATERIAL:

NCCER 2017 Electrical 1 Trainee Guide. Pearson 2017.

Module 26101-17	Orientation to the Electrical Trade
Module 26102-17	Electrical Safety
Module 26103-17	Introduction to Electrical Circuits
Module 26104-17	Electrical Theory
Module 26107-17	Hand Bending
Module 26111-17	Electrical Test Equipment

JUMPSTART FALL 2020

WEEK 1

DAY 1 MORNING

1. ORIENTATION AND INTRODUCTIONS.
2. Read Module 26101 "Orientation to the Electrical Trade"
3. Lecture on the "Orientation to the Electrical Trade" Module 26101
4. General Electrical Safety

DAY 1 AFTERNOON

1. "Orientation to the Electrical Trade" Review Questions Module 26101
2. Lecture on Ohm's Law and Basic Electrical Principles
3. Lecture on Module 26102 "Electrical Safety"
4. Review for Test "Orientation to the Electrical Trade" Module 26101

DAY 2 MORNING

1. **"Orientation to the Electrical Trade" TEST Module 26101**
2. Read "Electrical Safety" Module 26102
3. Lecture on "Electrical Safety" Module 26102
4. **PERFORMANCE TEST "Electrical Safety" Module 26102**

DAY 2 AFTERNOON

1. Review for "Electrical Safety" Test Module 26102
2. Review Questions for "Electrical Safety" Module 26102
3. Lecture on Module 26107 "Hand Bending"
4. LAB "Hand Bending"

DAY 3 MORNING

1. **"Electrical Safety" TEST Module 26107**
2. Read "Hand bending" Module 26107
3. Review Questions for "Hand Bending" Module 26107
4. Series Circuits
5. Lecture "Introduction to Electrical Circuits" Module 26103
6. **PERFORMANCE TEST "Hand Bending" Module 26107**

DAY 3 AFTERNOON

1. Lecture on "Introduction to Electrical Circuits" Module 26103
2. Read "Introduction to Electrical Circuits" Module 26103
3. Handout/ Homework on Series and Parallel Circuits
4. Review for "Hand bending" Test Module 26107
5. LAB "Hand Bending"

WEEK 2

DAY 4 MORNING

1. **"Hand Bending" TEST Module 26107**
2. Review Questions "Introduction to Electrical Circuits" Module 26103
3. Lecture "Introduction to Electrical Circuits" Module 26103
4. LAB

DAY 4 AFTERNOON

1. Worksheets on Circuits
2. Lecture "Introduction to Electrical Circuits" Module 26103
3. Introduction to Residential Lab
4. LAB
5. Review for Test "Introduction to Electrical Circuits" Module 26103

DAY 5 MORNING

1. **"Introduction to Electrical Circuits" TEST 4 Module 26103**
2. Read "Electrical Theory" Module 26104
3. Review Questions "Electrical Theory" Module 26104
4. Lecture "Electrical Theory" Module 26104

DAY 5 AFTERNOON

1. Lecture on "Electrical Theory" Module 26104
2. LAB
3. Worksheet on "Electrical Theory"
4. Review for "Electrical Theory" TEST Module 26104

DAY 6 MORNING

1. **"Electrical Theory" TEST 5 Module 26104**
2. LAB
3. Lecture on "Electrical Test Equipment" Module 26112
4. Review for TEST 6 "Electrical Test Equipment" Module 26112

DAY 6 AFTERNOON

1. Lecture on "Electrical Test Equipment" Module 26112
2. LAB
3. Ohm's law

WEEK 3

DAY 7 MORNING

1. Lecture: "Electrical Distribution"
2. LAB
3. **PERFORMANCE TEST "ELECTRICAL TEST Equipment" Module 26112**

DAY 7 AFTERNOON

1. Lecture "Electrical Test Equipment" 26112
2. Read Module 26112 "Electrical Test Equipment"
3. Review Questions "Electrical Test Equipment" Module 26112
4. LAB

DAY 8 MORNING

1. **"Electrical Test Equipment" TEST 6 Module 26212**
2. Permits and State Requirements
3. General Purpose Receptacles and Lighting Loads

DAY 8 AFTERNOON

1. Review for "FINAL" Test
2. LAB
3. **PERFORMANCE TEST "Electrical Test Equipment" Module 26112**
4. Load Calculations

DAY 9 MORNING

1. **"FINAL" TEST**
2. LAB
3. Lecture "Electrical Home Automation"
4. Lecture: "Grounding and Bonding Part 2"

DAY 9 AFTERNOON

1. Make Up Test
2. Turn in all Review Questions
3. LAB
4. Turn in Module Books
5. **TEST "FINAL"**

Course Evaluation and Grades:

TEST 1	10%
TEST 2	10%
TEST 3	10%
TEST 4	10%
TEST 5	10%
TEST 6	10%
FINAL	10%
REVIEW QUESTIONS	
(6 @ 3 PTS. EACH)	18%
PERFORMANCE TEST	
(3 @ 4 PTS. EACH)	12%

100%

90.0- 100.0	A
80.0- 89.99	B
70.0- 79.99	C
60.0- 69.99	D
0.00- 59.99	F

PERFORMANCE TEST

26101-17 **Orientation to the Electrical Trade**

This is a knowledge based module. There are no Performance Tasks.

26102-17 **Electrical Safety**

Perform a visual inspection of various types of ladders

Set up a ladder properly to perform a task

Properly don a harness.

Perform a hazard assessment of a job (discuss hazards, plan escape route, locate phone)

26103-17 **Introduction to Electrical Circuits**

This is a knowledge based module. There are no Performance Tasks.

26104-17 **Electrical Theory**

This is a knowledge based module. There are no Performance Tasks.

26107-17 **Hand Bending**

Make a 90 degree bend, a back-to-back 90 degree bend, offset, and 3-point saddle

26112-17 **Electrical Test Equipment**

Measure voltage in your classroom (line to line, line to neutral)

Use an ohmmeter to measure resistance in resistors

NCCER Retesting Procedures for Brazosport College

Class Grade: first score on an NCCER Module Quiz counts as College grade for that module.

NCCER Passing Score: A module score of 70 or higher.

Retest Eligibility: A score below 70 on a module exam will require a 48 hour wait period for retesting the same title.

Performance Profile Testing: Hands on demonstrations of specific competencies as required by NCCER for a particular module.

All Performance testing for NCCER certification purposes will be Pass / Fail.

Testing Policy:

1. All NCCER retakes and Performance Profile Tasks must be taken before the Brazosport College Final Exam.
2. A score below 70 on a module exam may retest within 48 hours on the same title.
A score below 60 on a module exam will require a 48 hour wait period for retesting the same title. Re-testing can only occur 48 hours after the first test; this is the 2nd attempt.
3. No third attempts at retaking an NCCER Module exam.

The number and frequency of requests for retesting for NCCER certifications at Brazosport College has been rising. Because of the number of requests and the restrictions that are in place due to NCCER statute of limitations, it is recommended that a testing procedure be in place to ensure a fair and equitable testing policy.

Criterion 1: Statute of Limitations of 3 years.

Upon request of a student for NCCER retesting, the initial criterion will be the date of the class was taken. If the class was taken longer than 3 years prior, the statute of limitations is in effect and no retests can be given at Brazosport College

Criterion 2: Course Completion.

Did the student drop or withdraw from the course? Students that have dropped or withdrawn from the course will not be given the opportunity for retesting any NCCER module tests for the course at Brazosport College.

Criterion 3: Success in the Course.

Did the student pass the course? Mastery of course content is paramount in assessing and managing safe work environments. If the student did not pass the Brazosport College course for college credit, no retesting will be permitted.

Criterion 4: Incompletions not addressed within 60 days.

If a student received an "incomplete" for the course, all coursework including retesting must be completed by 60 days from the last date of the semester.

Criterion 5: Quantity of Tests.

Students that have more than 25% of module tests, performance profiles, or combination exceeding 25% performance and assessment tests will not be given the opportunity to retest.

For SHEM students: review of NCCER Module Content is a benefit that is offered to students that wish to schedule a review time with a full time OSHT instructor. Students attending the review should allocate a minimum of 1 ½ hours to allow for review and testing time. The student must bring their book to facilitate the review. If the student has no book, they may gain special permission from an instructor to present to the library to use a NCCER reference book.

Criterion 6: Holds on Student Account.

The business office, library and/or other departments of the college should have no holds on student account for outstanding fines, fees or financial holds, otherwise re-testing will not be granted.

Testing Procedures.

NCCER Module Testing:

- All NCCER testing must be administered by NCCER approved testers.
- Approved facilitators are:
 - Fanny Frausto, AOS of the Office of Workforce Development & School Partnerships
 - Learning Services, NCCER Certified Testing Proctors
 - Full time Instructors of the Brazosport College Safety Program
- SHEM students will be limited to 1 ½ hours for NCCER module review and testing, including Performance Profile Testing.

NCCER Performance Profiles:

- Students will be limited to 30 minutes for NCCER Performance Profile testing.
 - Performance Profiles will be administered by Full Time Instructors of Brazosport College
- NCCER Module Test + Performance Profiles:
 - Students needing to retest for an NCCER Module Test and Performance Profile from the same unit will be limited to 1 ½ hours for the review and assessment.
 - Module + Performance Profiles will only be administered by a Full Time Instructor of Brazosport College.

Implementation: This procedure will be initiated upon a request from the student on retesting. The request may be made to any faculty, adjunct or full time, or the NCCER Site Representative. All requests, regardless of the origination shall be forwarded to the NCCER Site Representative for review. At that time, the student will complete the request formally on the NCCER Retesting Request Form. After the review, the completed form and decision regarding the availability for retesting will be made via verbally or in email to the following: the student; the faculty program coordinator; and the Director of Workforce Development.

General Rules and Policies

Academic Honesty Policy

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information. This is available online at <http://www.brazosport.edu>.

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication, and may result in removal in this course. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.

Students with Disabilities

Brazosport College is committed to providing equal education opportunities to every student. BC offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. For student to receive any accommodation, documentation must be completed in the Office of Disability Services. Please contact Phil Robertson, Special Populations Counselor at 979-230-3236 for further information.

Attendance and Withdrawal Policy

During each class period we will be learning basic skills/knowledge of the construction industry. If you miss a class, it is your responsibility to schedule any make-up test, homework, or in class assignment with the instructor.

If you fall behind in this class it is your responsibility to withdraw from the class. Because you stop attending class, it does not mean that you have officially withdrawn from class. To officially withdraw and receive a “W” in this class, you need to complete a withdrawal form before the official deadline which is [available on the Brazosport College Website](#).

Mobile Phone Policy

During class, cell phones are to be turned off or set in “vibrate” mode for the entire class period. Texting is not allowed in this class. If you are expecting a call or text of an emergent nature, please inform me before class to make arrangements in handling the call.

Assignments and make-up Policy

Students are responsible for completing all reading and homework assignments prior to class. There will be a test and a performance lab for each module. In order to receive NCCER credit for the module, you must pass the written test with a minimum score of 70. You have two attempts to achieve a score of 70; however you must have waited 48 hours before repeating the test.

Computer Usage Policy

Computers are to be used for class assignments only. If you are using classroom computers for personal use during class, you will be asked to leave immediately. You will be counted absent and receive a zero for any work assigned during the class period. This includes homework as well as in-class assignments.

Required course materials are available at the Brazosport College bookstore, on campus or online at <http://www.brazosport.edu/bookstore>. A student of this institution is not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retail

Title IX Statement

Brazosport College faculty and staff are committed to supporting students and upholding the College District’s non-discrimination policy. Under Title IX and Brazosport College’s policy FFDA (Local), discrimination based on sex, gender, sexual orientation, gender identity, and gender expression is prohibited. If you experience an incident of discrimination, we encourage you to report it. While you may talk to a faculty or staff member at BC, please understand that they are “Responsible Employees” and must report what you tell them to college officials. You can also contact the Title IX Coordinators directly by using the contact information below. Additional information is found on the Sexual Misconduct webpage at www.brazosport.edu/sexualmisconduct.

Kelli Forde Spiers, Director, Student Life and Title IX Coordinator
Office J-117D; 979-230-3355; kelli.fordespiers@brazosport.edu

Covid-19 and Hybrid Courses (See attachment “Addendum A”)

ELPT 1329 “Residential Wiring” Classroom Rules Sign Off Sheet

I, _____ have received a copy of the Syllabus for the “ELPT 1329 Residential Wiring” Course. I am aware of my responsibilities to follow and adhere to the rules and requirements written within.

Name (Student):

Date:

ELPT 1319 "FUNDAMENTALS OF ELECTRICITY" Classroom Rules Sign Off Sheet

I, _____ have received a copy of the Syllabus for the "ELPT 1319
"Fundamentals of Electricity" Course. I am aware of my responsibilities, and will adhere to the rules
and requirements written within.

Name (Student):

Date:

Paul Slovarp (Instructor):

7-9-19
