SYLLABUS

ELPT 1357: INDUSTRIAL WIRING

INDUSTRIAL & COMMERCIAL ELECTRICITY BRAZOSPORT COLLEGE

The Brazosport College District shall not discriminate against, or exclude from participation in any benefits or activities either on the staff or in the student body, any person on the grounds of sex, race, color, religion, national origin, age, or handicap.

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COURSE EVALUATION

STUDENT EVALUATION

A. Homework will account for no more than 10% of total grade.
B. NCCER Exams will account for no more than 60% of total grade.
C. Labs and Participation will account for no more than 10% of the total grade.
D. Final exam will account for no more than 20% of total grade.

INSTRUCTOR EVALUATION

A. Students will be given an opportunity to evaluate their instructor & the course content.
B. The instructor will review and evaluate in terms of withdrawal rate.
C. Final grades given will be reviewed in an effort to determine if a pattern of high or low grades exists.

DEPARTMENT EVALUATION OF COURSE

A. Faculty & the Division Chair will review student grades & withdrawal trends.
B. Faculty and the Division Chair will review the Course Competencies and Perspectives Assessment.

COURSE DESCRIPTION

Interpret electrical blueprints/drawings; compute circuit sizes and overcurrent protection for the installation of branch circuits, feeders, and service entrance conductors; explain the proper installation of wiring devices according to electrical codes; demonstrate grounding methods; identify industrial wiring methods; and demonstrate proper safety procedures.

TEXT AND REFERENCES

NCCER Contren Learning Series, Electrical Level 2 Trainee Guide 2017,

National Electric Code, 2017 published by National Fire Protection Association. ISBN:978-145591277-3
"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 retailer."

Modules:
NCCER 26201-17 Alternating Current
NCCER 26202-17 Motor Theory
NCCER 26209-17 Grounding & Bonding
NCCER 26210-17 Breakers & fuses (NO TEST)
NCCER 26211-17 Control Systems (NO TEST)

STUDENTS WITH DISABILITIES

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software. Please contact the Special Populations Counselor at (979) 230-3236 for further information.

ACADEMIC HONESTY

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. Click on the CATALOGS AND SCHEDULES link under STUDENTS.

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 will, at a minimum, result in 0 for that assignment in this course. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.

COURSE GOALS

The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives (Addendum A).

(* designates a CRUCIAL goal)

GENERAL GOALS/OBJECTIVES

- Student will know how to collect nameplate data; Identify various types of motors and their applications; and connect the terminals for a dual-voltage motor.
- Student will know how to calculate peak & effective voltage/current values & phase relationships between 2 AC waveforms.
- Student will know the difference between quick and slow-blow fuses, the two functions/activators of a circuit breaker, some of the different types (as purposed), how to substitute one fuse type in place of another, how to terminate a conductor to a circuit breaker
- Student will know how to wire up a three-wire pushbutton control, be able to name the basic control/protection elements used, explain safety considerations when wiring a 3-wire control, minor troubleshooting of same. The student will also be able to identify each wiring diagram as presented.

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STUDENT CONTRIBUTIONS

Each student will spend at least 4 hours per week preparing for class. The student will have an opportunity to evaluate the instructor.

COURSE EVALUATION

Student grades will be assigned according to the following criteria:

LABS/PARTICIPATION 10% HOMEWORK 10%
NCCER EXAMS 60% FINAL EXAM 20%

The student will be graded in accordance with established college policy. Grades of A through F will be assigned according to the chart below:

100-90 = A 89-80 = B 79-70 = C 69-60 = D 59-0 = F

ATTENDANCE AND WITHDRAWAL POLICIES

The class meets for 2 lecture hours and 2 lab hours per week. Each student will spend at least 4 hours per week preparing for class.

• Attendance is critical since this class meets only once a week. Attendance will be taken each class period. If you miss a class, it is your responsibility to schedule any make-up test, homework, or lab with the instructor.
• Because many assignments are prepared during class time, absences may adversely affect the final grade in the class.
• Students will be dropped if they miss more than 3 classes before the drop date.
• Tardies and leaving early will count as one half of an absence.
• Students are also expected to take care of the equipment in the classroom. PLEASE DO NOT BRING FOOD, DRINKS, OR UNAUTHORIZED PERSONS INTO THE CLASSROOM.
• It is the student's responsibility to withdraw from a course if circumstances occur that could prevent the student from successfully completing that course. Students should notify instructor of decision to withdraw and must not assume the instructor will complete the paperwork for the student. The instructor will complete required paperwork only if the instructor decides to drop a student for cause. Failure to notify instructor of withdrawal could result in the student failing the course.

During class, cell phones and all electronic devices are to be turned off or set on "vibrate" mode for the entire class period. Examples: cell phone use of any kind- including music, camera, recording; recording devices of any kind- tape recorders or cell phone. If you are expecting a call of an urgent nature, please inform me before class to make arrangements in handling the call. I.E. If you are holding, looking, or using a cell-phone during lecture/lab you are violating this policy.

COMPUTER USAGE

Computers are to be used for class assignments only. If you are doing internet searches, playing games, sending or receiving email, on facebook, twitter, instagram or snapchat, 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.

ASSIGNMENTS AND MAKE-UP POLICY

Students are responsible for completing all reading and homework assignments prior to class. All assignments are due on the date assigned. No late work will be accepted unless the student has an excused absence. An excused absence is when the student notifies the instructor of his or her absence prior to class.

Please note that changes in the Texas Education Code state that students enrolling for the first time in a Texas public institution of higher education in the fall of 2007 or after, will not be permitted to withdraw from more than a total of six courses (no minimum number of credit hours on each course) in which the student is officially enrolled during the student's period of undergraduate study at all such institutions (this includes any course a transfer student has dropped at another institution of higher education). See http://www.brazosport.cc.tx.us/CurStu.html for more information.

ADDENDUM A **PERFORMANCE OBJECTIVES**

Module 26201-14

Objective	Task
1	1. There are no performance goals for this module

26202-14

Objective	Task- Under supervision of the instructor, the trainee should be able to do the following:
1	Collect data from a nameplate.
2	Identify various types of motors and their applications.
3	Connect the terminals for a dual-voltage motor.

Module 26209-14:

Objective	Task- Under supervision of the instructor, the trainee should be able to do the following:
1	Using the proper fittings, connect 1 end of #4AWG bare copper grounding wire to a length of ¾" galvanized water pipe & the other end to the correct terminal in a main panelboard.
2	Install 2 lengths of type NM cable in a switch box using NM cable clamps: •Strip the ends of the cable to conform to the N.E.C. •Secure the cable in the switch box & tighten cable clamps •Connect & secure the equipment grounding conductors according to the NEC, & secure to the switch box with either a grounding clip or grounding screw.
3	Size the minimum required grounding electrode conductor for a 200A fed by 3/0 copper
4	Size the minimum required equipment grounding conductor in each conduit for a 400A feeder gap using 2 parallel runs of 3/0 copper.
5	Size the minimum required bonding jumper for a copper water pipe near a separately derived system (transformer) where the secondary conductors are 500 kcmil-copper.

Module 26210-14

Objective	Task- Under supervision of the instructor, the trainee should be able to do the following:
1	Identify the following on 1 or more circuit breaker(s) or fuse(s) •Number of poles •Load rating •Voltage rating •Amperage interrupting rating

Module 26211-14

Objective	Task- Under supervision of the instructor, the trainee should be able to do the following:
1	Mount & connect a 120V lighting contactor with a 3-wire pushbutton control.

CLASS SCHEDULE

The following is a tentative schedule for the course. The instructor reserves the right to make schedule changes based on the needs of the students in the class.

WEEK	SUBJECT	TEXT
1	Module 26201 Presentation, Lecture Class participation required for introductory presentation, some hands-on of components	NCCER 26201-17
2	Module 26201 Presentation, Lecture continued; Lab	
3	Module 26201 Presentation, Lecture Class participation required for presentation, Lab: hands-on assembly/disassembly of components	26201Review?supplemental homework due
4	Module 26201 Presentation, Lecture Class participation required for presentation, Lab: hands-on assembly/disassembly of components	NCCER 26201-17
5	**MODULE 26201 TEST;** Module 26202 Presentation, Lecture Class participation required for presentation, hands-on terminating and splicing	Homework due
6	Module 26202 Presentation, Lecture Class participation required for presentation	NCCER 26202-17
7	Module 26202 Presentation, Lecture Class participation required for presentation	
8	**MODULE 26202 TEST;** Module 26209 Presentation, Lecture Class participation required for presentation, hands-on Lab	Homework due
9	Module 26209 Presentation, Lecture Class participation required for presentation, hands-on Lab	NCCER 26209-17
10	Module 26209 Presentation, Lecture Class participation required for presentation, hands-on Lab	
11	Module 26209 Presentation, Lecture Class participation required for presentation, hands-on Lab	Homework due
12	**MODULE 26209 TEST;** Breakers/fuses Presentation, Lecture Class participation required for introductory presentation, hands-on Lab	
13	Fundamental control- Presentation, Lecture continued; Lab	
14	**FINAL TEST REVIEW**	
15	**FINAL EXAM - comprehensive**	

SYLLABUS ELPT 1357
INDUSTRIAL WIRING

COURSE SYLLABUS AGREEMENT FORM

YEAR_____ SEMESTER_____

LAST/FIRST NAME (PRINT) _____

DATE_____ TIME _____

INSTRUCTOR _____

I have enrolled in ELPT 1357 – INDUSTRIAL WIRING and agree that I have received a copy of the course syllabus. I agree as a condition of enrollment and participation in the course that I have read the syllabus and will comply with the requirements. It is understood that during the semester the instructor may have to make adjustments to the weekly class schedule.

I understand that communication by email must be done using my brazosport email only._____initial

I understand that if I do not wear proper Personal Protection Equipment during lab I will have to leave the classroom and will not earn a participation/lab credit._____initial

I understand to obtain NCCER credit I must have the NCCER form completed by 3rd session. In addition, NCCER test must have a minimum grade of 70%. The performance requirement must be completed by the 10th session. You must show complete competence in this performance requirement to obtain credit. _____initial

I understand that while it is possible to re-test on a NCCER exam for NCCER credit. Only the 1st attempt will be accepted for the grade book._____initial

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SIGNATURE DATE