

ELPT 1345 COMMERCIAL WIRING (Spring 2016)

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COURSE MATERIAL:

NCCER 2011 Electrical Two Trainee Guide. Pearson 2011

Module 26201-11`	Alternating Current
Module 26202-11	Motors: Theory and Application
Module 26204-11	Conduit Bending
Module 26205-11	Pull and Junction Boxes
Module 26206-11	Conductor Installations
Module 26209-11	Grounding and Bonding

Week 1	Orientation. Introduction to AC Theory. HW: Read "Pull and Junction Boxes" (Pgs. 1-15). Review Questions 1-10 Pg. 16.
Week 2	Lecture on " Pull and Junction Boxes" with Classroom participation. Review for Test 1 on "Pull and Junction Boxes". Performance Exam 1 . HW: Read "Conductor Installations" Pgs. 1-30.
Week 3	"Pull and Junction Boxes" Test 1 . Lecture on "Conductor Installations". Review for Test on "Conductor Installations ". Performance Exam 2 on "Conductor Installations" HW: Review Questions "Conductor Installations" Pg.31.
Week 4	Test on "Conductor Installations 2" . Performance exam for "Pull and Junction Boxes". AC Theory Discussion. Intro to Conduit Bending. Begin Conduit bending in the classroom. HW: Read "Conduit Bending" Pgs. 1-36.
Week 5	"Conduit Bending" Lecture and classroom lab. Conduit Review Questions Pg. 37 1-15.

Week 6	<p>"Conduit Bending" Test 3. Performance Test 3 on "Conduit Bending" and classroom lab.</p> <p>HW: Read "Grounding and Bonding" Pgs. 1-17.</p>
Week 7	<p>"Grounding and Bonding" Lecture with classroom participation.</p> <p>Performance Exam 4 on "Grounding and Bonding". Review for Test 4 "Grounding and Bonding"</p> <p>HW: Read "Grounding and Bonding" Pgs. 18-34. "Grounding and Bonding Review Questions Pg.35 1-15.</p>
Week 8	<p>MIDTERM: Test 4 "Grounding and Bonding". Makeup Test for Needed Students. Early Dismissal.</p>
Week 9	<p>Spring Break</p>
Week 10	<p>"Alternating Current" Lecture 1.</p> <p>HW: Read "Alternating Current Pgs. 1-20</p>
Week 11	<p>"Alternating Current" Lecture 2. AC Lab. Performance Test 5 "Alternating Current"</p> <p>HW: Read "Alternating Current" Pgs. 21-42</p>
Week 12	<p>"Alternating Current " Lecture 3. AC Lab. Review for "Alternating Current" Test.</p> <p>HW: "Alternating Current" Review Questions Pg. 43 1-15.</p>
Week 13	<p>Test 5 (Alternating Current). Introduction to "Motors: Theory and Application". Lecture 1 with class participation.</p> <p>HW: "Motors: Theory and Applications" Read Pgs. 1-30</p>
Week 14	<p>"Motors: Theory and Applications" Lecture 2. Performance Exam 6.</p> <p>HW: "Motors: Theory and Applications" Review Questions Pg. 61 1-20.</p>
Week 15	<p>Recap the semester with High lights of current trends and new developments in the Electrical Trade. Review areas of the program as needed. Prepare and Review for Final Exam.</p>
Week 16	<p>Final Exam 6. Turn in any required material to the Instructor.</p> <p>Make up Exams for students deficient.</p>

Performance Test

Performance Test 1:

"Pull and Junction Boxes"

Identify NEMA Boxes, Identify Conduit Bodies, Properly select and size Junction Boxes.

Performance Test 2:

"Conductor Installations"

Prepare multiple Conductors for pulling through a raceway
Prepare multiple conductors for pulling using a wire pulling basket.

Performance Test 3:

"Conduit Bending"

Use a conduit bender to bend a conduit stub-up at 15 1/4"
Make an offset in a piece of conduit to miss a 10" obstruction
Make a saddle in a piece of conduit to miss an 8" pipe

Performance Test 4

"Grounding and Bonding"

Connect a #4 Ground to a Ground Rod
Install 2 pieces of nm cable in a box.
Size the minimum size electrode for a 200amp Service Panel.
Size the minimum size bonding jumper for a copper water pipe
Where the secondary's are 2 runs of 500 MCM Cable

Performance Test 5:

"Alternating Current"

No Performance Test Required

Performance Test 6:

"Motors: Theory and Application:"

Collect Data from a Motor Nameplate
Identify various types of motors
Connect a dual-voltage Motor

GRADES

TEST 1 (10 POINTS)	10
TEST 2 (10 POINTS)	10
TEST 3 (10 POINTS)	10
TEST 4 (10 POINTS)	10
TEST 5 (10 POINTS)	10
TEST 6 (10 POINTS)	10
PERF. TEST 1	4
PERF. TEST 2	4
PERF. TEST 3	4
PERF. TEST 4	4
PERF. TEST 5	4
PERF. TEST 6	4
Review 1	3
Review 2	3
Review 3	3
Review 4	3
Review 5	3
Review 6 (Optional)	3

POINTS POSSIBLE ***102***

100-90 POINTS = A

89-80 POINTS = B

79-70 POINTS =C

69-60 POINTS =D

59 POINTS AND UNDER IS FAILING