

ELPT 1329 - Residential Wiring

Course Syllabus: Fall 2018

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ITTC Building

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Please use NTCC email for all off-class hours' correspondence.

	Monday	Tuesday	Wednesday	Thursday	Friday
ITTC Office Hours	8-4	8-6	8-4	8-6	8-12

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description:

Three Credit Hours. Residential Wiring includes: General Information for Electrical Installations, Specifications, Electrical Symbols and Outlets, Determining the Required Number of Branch Circuits, Conductor Sizes and Types, Wiring Methods, Wire Connections, Voltage Drop, and Neutral Conductor Sizing, Conductor Identification, Switch Control of Lighting Circuits, Bonding and Grounding of Wiring Devices, and Induction Heating, Ground Fault Circuit Interrupters, Arc Fault Circuit Interrupters, Luminaires, Ballasts, and Lamps, Lighting Branch Circuits for a Dwelling, Service Entrance Equipment, Overcurrent Protection-Fuses, Service-Entrance Calculations print reading, branch circuit wiring for all areas of a residence, overcurrent protection, 2017 National Electrical Code. Lecture 2 hours and Lab 4 hours per week.

Course Days and Times:

Course will be two days a week Tuesday and Thursday, from 6:00 pm till 9:00 pm.

Required Textbook(s):

1. ELECTRICAL WIRING RESIDENTIAL BASED ON THE 2017 NATIONAL ELECTRICAL CODE
Ray C. Mullin - Phil Simmons – MIND-TAP
ISBN 13: 978-1-337-11621-3
ISBN 10: 1-337-11621-1
2. 2017 National Electrical Code Book with Tabs

Recommended/Required Reading:

Weekly reading assignments will be from the text book along with end of chapter review questions that must be answered and completed on time. Other resources such as DVD,

speakers and 2017 National Electrical Code will be used. In class notes must be taken during instructor lecture. Late work or make up test will only be accepted with prior approval.

Instructor Resources:

Your instructor can be a great resource. Your instructor is here to assist you in learning the material and helping you earn the grade you want in the course. This is a commitment by your instructor. Please utilize this resource by contacting him with any matter you feel he can assist you with, both within this class or your college success in general. It is your responsibility to learn the material, but this can be best accomplished by initiating contact with the instructor on topics you need clarification or further assistance.

Student Learning Outcomes:

1. Students will demonstrate an understanding of the **Safety** rules and regulations regarding electrical troubleshooting, new installation, and working with electricity. *All NTCC safety, class, NEC, and other electrical rules and regulations will be enforced, and students will be required to abide by them. Regular Safety Meetings will be held.*
2. Students will demonstrate an understanding of the National Electric Code and how it governs and must be applied in the field when wiring residential dwellings.
3. Students will demonstrate, in the lab, their ability to wire different utilization devices, switches, duplex receptacles, luminaires, and more.
4. Students will demonstrate an understanding of wiring a residential dwelling in each aspect of the building including kitchen, living room, bath, bed room, garage, and out buildings. Both 120 and 220 volts AC will apply.
5. Students will demonstrate an understanding of electrical symbols and print reading.

Class Lectures, Labs, and Discussions

Date		Topic(s)
8/28		Class expectations, review syllabus, tour lab, TDLR paperwork. Safety is most important
8/30		Electrical safety video. Safety discussion. Safety Test.
9/4 – 9/6	Chapter 1	General Information Electrical Installations. Chapter review questions due. Lab -Hand tools, Electrical Materials.
9/11 – 9/18	Chapter 2	Specifications, Electrical Symbols, and Outlets. Chapter review questions due. Lab -Hand tools, Electrical Materials.
9/20– 9/27	Chapter 3	Determining the Required Number of Branch Circuits, Lighting Outlets, and Receptacle Outlets. Chapter review questions due. Lab –Hand tools, Electrical Materials. Test covering Chapters 1 - 3.

10/2 – 10/11	Chapter 4	Conductor Sizes and Types, Wiring Methods, Wire Connections, Voltage Drop, and Neutral Conductor Sizing for Services. Chapter review questions due. - Lab
10/16 -10/23	Chapter 5	Conductor Identification, Switch Control of Lighting Circuits, Bonding/Grounding of Wiring Devices, and Induction heating. Chapter review questions due.- Lab
10/25 – 10/30	Chapter 6	Ground-Fault Circuit Interrupters, Arc-Fault Circuit Interrupters, Surge Protection Devices, Immersion Detection Circuit Interrupters, and Appliance Leakage Current Interrupters. Chapter review questions due. - Lab
11/1	Test	Test covering Chapters 4 – 6. - Lab
11/6 – 11/8	LAB	Lab – Wiring Assessment.
11/13 – 11/15	Chapter 7 - 8	Chapter 7 – Luminaires, Ballast, and Lamps. Chapter 8 – Lighting Branch Circuit for the Front Bedroom.
11/20 – 11/22	Mind-Tap	Students to go into Mind-Tap and wire simulations.
11/27 – 11/29	Chapter 15	Dryer Outlet, Lighting, and Receptacle
12/4 – 12/6		Lab Circuit Wiring – Final Review
12/6		Last class day – Final Review
12/11		Final Examination – Written and Lab

Note:

Labor Day – Monday, September 3

Deadline for Fall Graduation Application Thursday, October 18

Thanksgiving Break – Wednesday – Friday November 21 – 23

Final Day to Withdraw with a Grade of “W” (16 weeks) Tuesday, November 20

Fall Graduation 7:00 PM, Friday, December 14

Tools:

All tools in the Lab are supplied by NTCC. No additional tool purchase is required. Students are required to respect school tools and replace them in designated area, clean and in proper working order. Students are not allowed to remove tools from the Lab area. Tools are not to be loaned out to student.

General Classroom and Lab Polices:

The Electrical Occupations Program, like most other vocational programs, has policies that must be followed. These policies will give you the student a better opportunity to learn and create a safe environment for all to work in.

1. Students are not permitted to use instructor's tools at any time.
2. Students are not permitted talk/text on cell phone during class/lab time.
3. Students are not permitted to enter any instructor's office unless accompanied by an Electrical Occupations Faculty member. No Exception!
4. All phones must be silent or turned off during class and lab. No ear buds are allowed.
5. No eating, drinking, or tobacco use in class or lab. During breaks only in designated area.
6. No open toed shoes (sandals or flip flops) in shop area. Extremely long hair must be kept up. No jewelry should be worn while working in the lab.
7. Students will be required to wear safety glasses, at all times, while in Shop/Lab area.
8. Student must pass all safety tests before working in the lab.
9. Student will NOT work on or energize electrical circuits.
10. Student can be removed if he or she violates the safety rules.

Class Attendance:

Regular and punctual attendance at all scheduled classes is expected. Attendance is necessary for successful completion of course work. Each class will build upon the other. Knowledge in the electrical field is a process, material covered in each class will help the student to build their knowledge base and help them understand future electrical material. Part of your grade will be on attendance and punctuality. **More than three absences are considered excessive. It is up to the student to initiate a drop in the Office of Admissions and Records.**

Class/Homework:

All homework and in-class/lab assignments must be turned in on due date. Late work must be arranged with the instructor prior to due date.

Evaluation and Grading:

Grades you will receive for this class will be based upon these areas:

1. Written assignments and tests: Graded on Content, Legibility, & Organization.
2. A minimum of 3 test covering Class Notes, Text Material, Assigned Reading & DVD.
All tests are equally weighted.
3. Lab: (Hands On)
Quality of Work Attitude toward co-workers

Care of tools	Following Instructions
Use of Materials	Responsibility
Use of Time	Safety
Attitude toward Supervision	Attendance and Punctuality

4. Instructor discretion:

This is based on your mechanical abilities, problem solving abilities in relationship to diagnostics and overall class participation.

The letter grade is based on the following grading scale:

89.5% - 100% = A

79.5% - 89.4% = B

69.5% - 79.4% = C

59.5% - 69.4% = D

0 – 59.4% = F

Exams/Test:

There will be three or more written test during the duration of the course, including the final. There will be five or more lab/shop tests where students will demonstrate different wiring methods.

Academic Ethics/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 all 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 standard of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook.**

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.

SCANS Skills:

This course addresses the Secretaries Commission on Achieving Necessary Skills (SCANS). By successfully demonstrating mastery of the Student Learning Outcomes listed above, the student will have addressed the following SCANS competencies:

C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20

F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16, F17

Please see the following web site: <http://wdr.doleta.gov/SCANS/whatwork/whatwork.pdf>

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 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 educational institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

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 ELPT 1329

Student Signature

Date