



HOUSTON COMMUNITY COLLEGE

Division of Construction Engineering Technology, HVAC, Industrial Electrical
Construction Industry Department

<https://www.hccs.edu/programs/areas-of-study/construction-industry-- manufacturing/>

ELPT 1329: Residential Wiring| Hybrid | #14016

Fall 2019 | 8 Weeks 10/21/2019-12/15/2019)

Hybrid | SE Workforce II 201 | Tue-Thu 4:00 p.m. – 6:30 p.m.

3 Credit Hours | 80 hours per semester

Instructor Contact Information

Instructor: Heriberto Frías Office Phone: 713-718-0000 Office: J.B. Whiteley, Room 201 Office
Hours: By appointment. HCC Email: h.friasrangel@hccs.edu Office Location: Central Faculty
Area

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics.

Instructor's Preferred Method of Contact I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

What's Exciting About This Course

One of the most exciting aspects of learning electrical installations is gaining marketable skills in wiring. It will be hands-on and practical, and we will have an environment that matches the electrician's workplace as close as it can be matched in a school setting.

My Personal Welcome

Welcome to Residential Wiring. I am excited about this being your instructor for the upcoming weeks. I love electricity and anything associated with that discussion. I will present the information in the most engaging way I know, so that you can grasp the concepts and apply them now and hopefully throughout

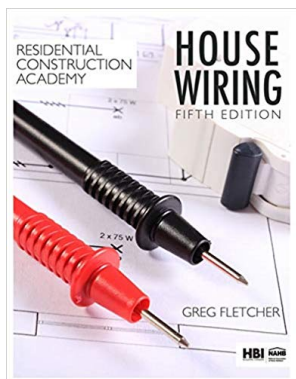
your life. This class should not be very difficult, but if you must do all the work and study for exams. I realize that for some of you, this is your first time with a lot of these concepts, but I promise you can learn them regardless. As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person. Please visit me or contact me whenever you have a question.

Prerequisites and/or Co-Requisites

ELPT 1329 Residential Wiring – no prerequisites. Other than that, you should just have a willingness to learn and explore your environment. Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

Instructional Materials

Textbook Information



The textbook listed below is **required** for this course. ***Residential Construction Academy: House Wiring*** (5th Edition) by **Gregory W. Fletcher** ISBN: 978-1-3374-0241-5

It is for sale at the [HCC Bookstore](#). Order your book here: [HCC Bookstore](#)

Other Instructional Resources

Tutoring HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services](#) website for services provided.

Libraries The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <http://library.hccs.edu>.

Supplementary Instruction Supplemental Instruction is an academic enrichment and support program that uses peer- assisted study sessions to improve student retention and success in historically difficult

courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>.

Course Overview

ELPT 1329 is a course for those seeking to acquire the wiring skills needed to gain, maintain or further employment in the fields of residential construction, maintenance, remodeling, or construction management. Emphasis is applied on wiring design, protection, methods, and materials; equipment for general use; and basic calculations. The course is designed to familiarize the student with wiring methods, materials and equipment, and the safety practices associated with them.

Core Curriculum Objectives (CCOs)

ELPT 1329 is a building block class in your journey towards a qualified, skilled electrical worker, and this course should address the following core objectives:

- **Safety Above All:** Students will demonstrate the ability to choose the proper tool while practicing safety to ensure that all people in the surround workplace area are safe from harm.
- **Manual Trade Skills:** Students will demonstrate effective wiring skills through building, protecting, inspecting and testing branch circuits to develop themselves as qualified electrical workers
- **Critical Thinking:** Students will demonstrate critical thinking skills in choosing proper personal protection equipment and tools in order to accomplish tasks in a safe and proper manner.

Program Student Learning Outcomes (PSLOs)

Can be found at:

<https://www.hccs.edu/programs/areas-of-study/construction-industry--manufacturing/industrial-electricity/>

Course Student Learning Outcomes (CSLOs)

Upon completion of ELPT 1329, the student will be able to:

- Exhibit knowledge of safety rules and regulations, and demonstrate awareness of hazards in the workplace.
- Demonstrate dexterity in the selection and use of common tools utilized in the electrical trade to cut, strip, splice and terminate wires.
- Explain the function of circuit components: source, load, conductors and devices, illustrate the concepts of voltage, current, power and resistance as they apply to feeder and branch circuits.
- Describe the theory of operation, application and usage of devices employed in common installations: receptacles, single pole, three-way, four-way and dimmers switches.

- Display proficiency in the use of common measuring instruments; such as multimeters, ammeters, voltage and circuit testers; to check current, voltages, resistance and continuity.
- Identify symbols and interpret blueprints and wiring schematics to perform electrical installations.
- Display familiarity in recognizing and applying requirements for the three types of circuits employed in residential installations: general purpose, small appliance and individual circuits.
- Determine conductor size and type of various installations in compliance with the requirements of the National Electrical Code.
- Exhibit proficiency in performing most common installations in single and multi-family dwellings in compliance with the requirements of the current edition of the National Electrical Code and City Code

Course Requirements

- Internet connection (DSL, LAN, WI-FI, or cable connection desirable)
- Access to HCC
- This course is designed to provide a hybrid experience, including both face-to-face and online activities.
- Contact time will be divided in the following way:
 - 50% face-to-face
 - 50% online
- Face-to-face sessions will be held on the HCC SE campus in the Workforce II Building Room 124.
- Online sessions will be a blend of self-paced and group activities using HCC and other Web sites. Activities will consist of chat, blogs, discussion forums, email, journaling, blogging, wikis, and web posting.

Student Success

Expect to spend at least as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as your guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and make up
- Provide the course outline and class calendar which will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Attain a raw score of at least 50% on the departmental final exam
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Participation

Participation is a requirement for this class. You will be required to participate in face-to-face and online discussions. In order to participate you will have to be in class and post online. If you are absent from class it is the same as not participating for half of that day.

Chapter Quizzes

There will be two quizzes, one for each exam. The quizzes will be taken online. You will be responsible for learning and knowing everything that we go over in class so it is important for you to not miss any class or get with your classmates to find out what you missed so you can do well on the quizzes. **"No make-up quizzes will be given."**

Exams

There will be two exams, a midterm and a final. Each exam will be taken in class with a time limit of 90 minutes. You will be responsible for learning and knowing everything that we go over in class so it is important for you to not miss any class or get with your classmates to find out what you missed so you can do well on the final exam. **“No make-up exams will be given.”**

Grading Formula

Exams are worth 20%.

Labs are worth 40%.

Practical tests are worth 20%.

Online activities are worth 40%.

Grade Total Points

A 90% - 100%

B 80% - 89% C

70% - 79%

D 60% - 69%

F <60%

HCC Grading Scale can be found on this site under Academic Information:

<http://www.hccs.edu/resources-for/current-students/student-handbook/>

Course Calendar

Week	Dates	Topic/What's due
1	Oct 22	Introduction
1	Oct 24	Basic Safety, NEC, Protective equipment, Fires hazards, Lockout/tagout
2	Oct 29	Circuit components, Electrical quantities, Ohm's Law, Hardware and materials, Boxes and raceways, Conductors, Wires and ampacities, Protective devices, Panelboards, Tools, Table 310-16 Wiring exercises: splicing conductors.
2	Oct 31	Basic symbols, Receptacles, lampholders, and single pole switches. Wiring exercises: connections to a panel board.
3	Nov 5	Meters and testers, Kilowatt-hour meter. Wiring exercises: Using meters, receptacle circuits

3	Nov 7	Residential building plans, Framing, Service entrance, Grounding Wiring exercises: light circuit using single pole switches
4	Nov 12	Residential branch circuits, Load center sizing Wiring exercises: three-way switches
4	Nov 14	Midterm exam and wiring project
5	Nov 19	Rough-in wiring, Box and Cable installation Wiring exercise: three-way switches
5	Nov 21	Branch circuits, General lighting and Small appliance circuits, GFCI Wiring exercises: four-way switches
6	Nov 26	Special circuits, Service entrance calculations Wiring exercises: GFCI circuits
6	Nov 28	Thanksgiving holiday - No school
7	Dec 3	Service entrance calculations continued, Split circuits Wiring exercises: Special circuits
7	Dec 5	Review Make up projects
8	Dec 10	Review Final project
8	Dec 12	Final Exam

Syllabus Modifications The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Missed Assignments There will be no make up for missed exams. Make sure to not miss exam days. Any missed project made up will earn a maximum grade of 70.

Academic Integrity Students are responsible for conducting themselves with integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by college district officials against a student accused of scholastic dishonesty. "Scholastic Dishonesty" includes, but is not limited to, cheating on a test, plagiarism and collusion. Any instance of scholastic dishonesty may be reported to the Maxiant system. Possible punishments for scholastic dishonesty include a grade of "0" or "F" on the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the

college district. A recommendation for suspension or expulsion will be referred to the college Dean of Students for disciplinary disposition. Students have the right to appeal the decision. Cheating, plagiarism, collusion, etc. will result in a grade of F for the course and a report will be filed with the Dean.

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

Attendance Procedures You are encouraged to attend each class since regular attendance correlates with good grades. Be on time and attend the entire class. If you must be absent, you are, of course, responsible for the material covered in class in your absence (see the Course Calendar). Be advised that instructors must drop students who fail to attend class by the official date of enrollment ("Census Day"). In addition, instructors may drop students who miss four hours or 12.5% of class time.

Student Conduct I expect students to conduct themselves professionally in their communications with me, classmates, and college staff and administration, whether in email or in class. Behavior inappropriate to the collegiate setting (including but not limited to abusive/derogatory/threatening/harassing language directed at the instructor or towards other students, staff or administrators) will not be tolerated and may result in removal from the course if severe and/or repeated. **To ensure privacy of your classmates, taking photos in class is strictly prohibited.**

Instructor's Course-Specific Information (As Needed) We will adhere to a strict dress code in this class because of safety reasons. No shorts or sweat pants will be allowed in class. No flip flop or open toed shoes will be permitted. You must wear rubber soled boots or sneakers. At all times, all conductive materials to include earrings, rings, necklaces, and other type metal items must be removed during class. During labs, safety glasses will be worn and covering your eyes not on your head.

Electronic Devices The use of electronic devices by students in the classroom is up to the discretion of the instructor. Any use of such devices for purposes other than student learning is strictly prohibited. If an instructor perceives such use as disruptive and/or inappropriate, the instructor has the right to terminate such use. If the behavior continues, the student may be subject to disciplinary action to include removal from the classroom or referral to the dean of student services. Cell phones will be on vibrate or off. If you need to take an emergency phone call, step out in the hall and do so. Cell phones are not calculators, so please get a scientific calculator for class.

Industrial Electrical Program Information

New Associates Degree in Electrical Technology Fall 2019 Please look forward to our upcoming Associate's degree in Electrical Technology which opens Fall 2019.

Scholarship information for Workforce Students Extra money is always welcomed while you are in school. Below are the scholarship that I know about that you should apply for if you meet the criteria for that scholarship.

- HCC Foundation Workforce Scholarship - \$1,000 award <https://www.hccsfoundation.org/workforceschlp>
- Mike Rowe's Scholarship (You can also look for jobs on his website) <https://www.mikeroweworks.org/>
- TEXVET.ORG – Various Veterans Scholarships for Texas Veterans
https://www.texvet.org/scholarships?distance%5Bpostal_code%5D=77004&distance%5Bsearch_h_distance%5D=50&distance%5Bsearch_units%5D=mile
- Home Depot School Scholarship - \$2,500 and deadline to apply is 01/22/2019
<https://www.thdhomefund.org/orangescholars/>
- Grainger Tool for Tomorrow Scholarship - \$2,000 and a bag full of tools
<https://www.grainger.com/images/TFT-Brochure.pdf>

HCC Policies Here's the link to the HCC Student Handbook

<http://www.hccs.edu/resources-for/current-students/student-handbook/> In it you will find information about the following:

Academic Information Incomplete Grades Academic Support International Student Services Attendance, Repeating Courses, and Withdrawal

Health Awareness

Career Planning and Job Search Libraries/Bookstore Childcare Police Services & Campus Safety disAbility Support Services Student Life at HCC Electronic Devices Student Rights and Responsibilities Equal Educational Opportunity Student Services Financial Aid TV (FATV) Testing General Student Complaints Transfer Planning Grade of FX Veteran Services

EGLS³ The EGLS³ (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS³ surveys are only available for the Fall and Spring semesters. EGLS³ surveys are not offered during the Summer semester due to logistical constraints.

<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>

Campus Carry Link Here's the link to the HCC information about Campus Carry:

<http://www.hccs.edu/departments/police/campus-carry/>

HCC Email Policy When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to [HCC Eagle ID](#) and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<http://www.hccs.edu/departments/institutional-equity/>)

disAbility Services HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <http://www.hccs.edu/support-services/disability-services/>

Title IX Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross Director EEO/Compliance Office of Institutional Equity & Diversity 3100 Main
(713) 718-8271 Houston, TX 77266-7517 or Institutional.Equity@hccs.edu
<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>

Office of the Dean of Students Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>

Department Chair Contact Information Armando

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