

**Division of Construction Engineering Technology, HVAC, Industrial Electrical**

**Construction Industry Department**

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

ELPT 1341: Motor Controls | Lecture/Lab | #10689

Spring 2019 | 16 Weeks

| Central 106 | Monday/Wednesday 8 A.M. - 10:20 A.M.

3 Credit Hours |

### Instructor Contact Information

Instructor: Aurelio Jesus Aguilar Office Phone: (713) 718-6549

Office: J.B. Whiteley, Room 201 C Office Hours: M,W,TH 3:00-5:00 p.m.

HCC Email: [aurelio.aguilar@hccs.edu](mailto:aurelio.aguilar@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 as soon as possible Monday through Friday; I will reply to weekend messages on Monday mornings.

### What’s Exciting About This Course

This course is a hybrid class with mostly hands on training and is a great way to learn how to wire and install Industrial Motors with several different types of Relays and Contactors.

### My Personal Welcome

I would like to welcome anyone and everyone to take this course and enjoy themselves as

much as I enjoy teaching my classes.

## 

# Instructional Materials

### Textbook Information

|  |  |
| --- | --- |
| C:\Users\aurelio.aguilar\Desktop\SYLLABUS 2019\1133702813.gif | **Change the picture of the book.** The textbook listed below is ***required*** for this course.  ***"Electric Motor Control:*** (10th 15 edition) by Cengage L  ISBN: 978-1-133-70281-8  It is for sale at the [HCC Bookstore](https://hccs.bncollege.com/webapp/wcs/stores/servlet/BNCBHomePage?storeId=19561&catalogId=10001&langId=-1). Order your book here: [HCC Bookstore](https://hccs.bncollege.com/webapp/wcs/stores/servlet/BNCBHomePage?storeId=19561&catalogId=10001&langId=-1) |

### 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](http://www.hccs.edu/resources-for/current-students/tutoring/) 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](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 1341 is a Hybrid Course with approximately 30 hands on Electrical Projects that all students must complete in order to pass the course. There are also assignments that must be completed out of the book.

### Core Curriculum Objectives (CCOs)

ELPT 1341 is a building block class in your journey towards an 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 work place area are safe from harm.
* ***Communication Skills:*** Students will demonstrate effective communication through visual, written, and spoken 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 1341, the student will be able to:

1. Explain electrical hazards and how to avoid them in the workplace.
2. Discuss safety issues concerning Industrial 3 Phase High Voltage and low Voltage procedures.
3. Demonstrate safe work habits using common hand and power tools for electricians

### Course Requirements

* Internet connection(DSL,LAN,WI-FI, or cable connection desirable)
* Access to HCC’S Electrical Lab

### Course Requirements

* Exhibit proficiency in performing the most common Single Phase and 3 Phase Motor circuit installations.
* Determine proper wiring requirements for common 11 Pin Relay and 8 Pin Relay installations.
* Apply circuit properties and concepts of Low Voltage Transformers, Voltage, Current and Resistance also troubleshoot, diagnose and repair faults encountered in Industrial Circuits

# Student Success

Expect to spend at least twice 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](http://www.hccs.edu/resources-for/current-students/student-handbook/)

# Assignments, Exams, and Activities

### Tool Laboratories

The labs will be made up of exercises and projects. They will include some tools that you MUST buy and some that I will provide for you to use. It is imperative that you buy your tools and bring them to class so you can get credit for this part of your grade. We will be doing a new tool lab every week except for test weeks. Make sure and show up with your required tools so you can get credit for this laboratory each week.

### Quizzes

You will be assigned a total of 10 quizzes which will be online on your Canvas class shell. You are responsible for taking and completing the quizzes within the assigned time frame. Each quiz will count towards 1.5% of your final grade. There will be no extensions on quizzes under any circumstance.

### Midterm & Final Exam

Each student is responsible for taking and passing a midterm and final exam. Both of these exam will consist of knowledge learned from in class lectures, readings in the textbook, online participation videos, and tool laboratories.

### Grading Formula

Tool labs are worth 20% of your grade. Online participation is worth 20% of your grade. The online quizzes are worth 20% of your grade. Each exam is worth 20% of your grade.

Labs/licenses 20%

Tool Talk tool review 20%

Online quizzes 20%

Midterm Exam 20%

Final Exam 20%

Total for class 100%

|  |  |
| --- | --- |
| **Grade** | **Total Points** |
| A | 90% - 100% |
| B | 80% - 89% |
| C | 70% - 79% |
| D | 60% - 69% |
| F | 0% - 59% |

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

[**http://www.hccs.edu/resources-for/current-students/student-handbook/**](http://www.hccs.edu/resources-for/current-students/student-handbook/)

# Course Calendar

|  |  |  |
| --- | --- | --- |
| **Week** | **Dates** | **Topic/What’s due** |
| 1 |  | Syllabus  Tool List |
| 2 |  | Chap 1: Electrical hazards & basic electrical safety Concept  Tool- Tools/PPE  Quiz – Chapter 1 (closes before next class)  OSHA 10 training |
| 3 |  | Chap 2: Multi-employer worksites & electrical safety program  Tools – Hammers/gang boxes/conduit bending  Quiz – Chapter 2 (closes before next class) |
| 4 |  | Chap 3: Training of qualified and unqualified workers  Tools – Screwdrivers/anchors  Quiz – Chapter 3 (closes before next class) |
| 5 |  | Chap 4: Approach boundaries for chock arc flash hazards  Tools – Tape measure  Quiz – Chapter 4 (closes before next class) |
| 6 |  | Chap 5: Performing a risk assessment  Tools – Levels/knives/strippers  Quiz – Chapter 5 (closes before next class) |
| 7 |  | Tools – Lineman’s pliers/Dikes/needle nose/channel locks  Online Assignment – None |
| 8 |  | Midterm Exam (in class) |
| 9 |  | Review midterm exam  Chap 6: Establishing an electrically safe work condition  Tools – Drill bits/extractors/hole cutters  Quiz – Chapter 6 (closes before next class) |
| 10 |  | Chap 7: Working on energized conductors and circuit parts  Tools – Cordless/corded drill/hammer drills  Quiz – Chapter 7 (closes before next class) |
| 11 |  | Lab week |
| 12 |  | Chap 8: Portable electric tools and flexible cords  Tools – Flexible cords/electric saws/reamers  Quiz – Chapter 8 (closes before next class) |
| 13 |  | Chap 9: Selecting and inspecting PPE  Tools – Non contact voltage meter  Quiz – Chapter 9 (closes before next class) |
| 14 |  | Chap 10: Guidelines for common electrical tasks  Tools – Multimeter 1  Quiz – Chapter 10 (closes before next class) |
| 15 |  | Tools – Multimeter 2  Lab week |
| 16 |  | 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 assignments. I am allowing you a reasonable amount of time to get all online exercises and quizzes done. Also, there will be no makeup exam so make sure to not miss exam days. Any missed assignment or exam will earn a grade of “0” on that particular exercise.

## 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 boots or rubber soled shoes like sneakers. At all times, all conductive materials to include earrings, rings, necklaces, and other type metal items must be removed during class.

## 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.

# 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_distance%5D=50&distance%5Bsearch_units%5D=mile>

* Home Depot School Scholarship - $2,500 and deadline to apply is 01/22/2019

<https://www.thdhomerfund.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](http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/)) 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](http://www.hccs.edu/resources-for/current-students/student-e-maileagle-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](mailto: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 R. Villanueva Department Chair

[armando.villanueva@hccs.edu](mailto:armando.villanueva@hccs.edu)

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Houston, Texas 77004

713.718.5284