



Course Catalog

2020 - 2021

Cruz Institute

1272 S. John Young Parkway

Kissimmee, FL 34741

Tel: (407) 530-5951

www.CRUZINSTITUTE.com

**Licensed by the Commission for Independent Education
Institution I.D. #6155**

Address:

Commission for Independent Education
Florida Department of Education
325 West Gaines Street
Tallahassee, FL 32399-0400

Toll-free telephone number (888)224-6684

Disclaimer

This catalog is current as of the time of publication. From time to time, it may be necessary or desirable for The Cruz Institute to make changes to this catalog. The Cruz Institute reserves the right to make changes at any time to any provision of this catalog, including the amount of tuition and fees, academic programs and courses, school policies and procedures, faculty and administrative staff, the school calendar and other dates, and provisions.

The Cruz Institute also reserves the right to make changes in equipment and instructional materials, to modify curriculum and to combine or cancel classes.

2020 - 2021 CRUZ INSTITUTE CATALOG

CATALOG VOLUME 2

Effective Date: January 1, 2020

This catalog contains a summary of the policies, rules and procedures of the Cruz Institute at the time of publication.

The Cruz Institute reserves the right to change any provision of this catalog at any time. The Commission for Independent Education will be notified in advance of all modifications.

Notice of changes will be communicated in a revised catalog, an addendum or supplement to the catalog, or other written format. No modifications will be advertised until approved by the Commission for Independent Education.

Please refer to the catalog addendum for current information related to the school calendar, tuition and fees, listing of faculty and other updates.

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School Profile

About Us

Message from the President & C.E.O.

Congratulations on your decision to pursue a career for which you have a passion. Many people choose to attend a post-secondary institution, but few have the foresight and courage to pursue their creative passion in a practical way in order to make their dreams a reality. The Cruz institute, located in Kissimmee, and is pleased to help you gain the knowledge and skills needed to pursue a career in Electrician Technology Helper and Air Conditioning, Refrigeration, and Heating Technology Helper.

We take your education very seriously. We strive to stay attuned to your personal academic and career goals as we help you pursue studies geared toward realizing your full potential. Our own goal is to provide you with as many advantages at our disposal. You will study with professionals using industry-driven credentials, curriculum, software and equipment. We encourage you to jump into your passion from the moment you engage in our classes. Expect to find project-oriented classes in your major from week one.

We recognize that hands-on learning experience is critical in your field. That's why we are centered around giving each student opportunities to gain skills by working on relevant, industry-related projects while studying at Cruz Institute.

On behalf of the entire faculty and staff, welcome to our Institute. We recognize your drive and applaud your commitment to developing your talents and your future. It is our privilege to provide you with the means to help you change your world.

Sincerely,

Antonio Cruz

Antonio Cruz
President & C.E.O.

Mission Statement

Our mission is to provide students with Industry concepts and skills that will lead them to success in their careers. Using technology and current industry practices our dedicated faculty and staff will create a conducive learning environment focused on quality and teaching.

Our Purpose

Cruz Institute is a for-profit DBA of The HVAC-R TRAINING SCHOOL, INC, which has one owner "Antonio Cruz" who is the CEO and President, there is no other direct stockholder, nor does any individual own or otherwise possesses any rights, options, or other ownership rights in the company. HVAC and Electricity training aligned with industry standards. With input from local employers, community and consultants, Cruz Institute has created courses and labs that align theoretical concepts with real-world industry benchmarks. This approach created learning solutions that encompass community and industry specific goals, with corporate culture. Cruz Institute ensures quality by providing experienced instructors, who are highly trained and specialized in the areas they teach.

To accomplish our mission, the institution is dedicated to:

- Fostering academic excellence
- Providing theoretical and practical training
- Employing qualified faculty who offer students Personalized attention and professional expertise
- Feature industry-standard curricula and technologies
- Providing staff who uphold high standards of service
- Cultivating an environment that celebrates creativity and diversity

History

The HVAC-R TRAINING SCHOOL, INC was founded in 2015 by Anthony Cruz as a private training company. They began offering small HVAC and Electrical classes to already employed industry technicians. The sole purpose was to enhance their skills. The birth of Cruz Institute came about with the help of a Non-Profit Organization in Orlando called "Prospera" <https://prosperausa.org/> . They assisted with the design, purpose and business plan for the institution. Our current direction is to serve our community and to offer a profound experience in the field of career education.

Administration

CEO & Director of Education	Antonio Cruz	(407) 530-5951	acruz@cruzinstitute.com
Admission Officer	Zenaida Lebron	(407) 530-5951	info@cruzinstitute.com
Advisor & Placement Director	Antonio Cruz	(407) 530-5951	acruz@cruzinstitute.com
Financial Director	Antonio Cruz	(407) 530-5951	acruz@cruzinstitute.com

Faculty

<p>Carlos Santos Experience: 7 years in the field</p> <ul style="list-style-type: none"> Bachelor of Science in Mechanical Engineering from University of Puerto Rico HVAC / Electricity Diploma from Instituto Politecnico Tampa EPA Universal Certification 	<p>Miguel Iglesias Experience: 34 years in the field</p> <ul style="list-style-type: none"> Bachelor of Science in Electrical Engineering from Polytechnic University Electrical Installation Certificate from Metropolitan Institute
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Business Address & Hours of Operations

Cruz Institute is located at **1272 S John Young Parkway, Kissimmee, Florida 34741**

Hours of Operation		
Monday	8:00 AM	10:00 PM
Tuesday	8:00 AM	10:00 PM
Wednesday	8:00 AM	10:00 PM
Thursday	8:00 AM	10:00 PM
Friday	8:00 AM	10:00 PM
Saturday	8:00 AM	5:00 PM

Observed School Holidays		Enrollment Periods
Independence Day	Christmas Break	1 st and 15 th of every Month*
Labor Day	Memorial Day	Jan, April, July, Oct
Thanksgiving break	New Years' Day	*Next business day if the date falls on weekends or holidays

Class Schedules		
Morning Classes 8:00 AM to 1:00 PM	Group A	Monday & Tuesday
	Group B	Wednesday & Thursday
	Group C	Friday & Saturday
Evening Classes 5:00 PM to 10:00 PM	Group D	Monday & Tuesday
	Group E	Wednesday & Thursday
	Group F	Friday & Saturday

All groups (A through F) will attend classes for 10 hours a week for 40-56 weeks depending on Part or Full time.

Theory & Lab Courses:

Electrician Technology Helper (Total Clock Hours 457):
The student will complete 71 clock hours of theory before starting the lab hours.

Air Conditioning, Refrigeration, and Heating Technology Helper (Total Clock Hours 471):
The student will complete 51 clock hours of theory before starting the lab hours.

About our Faculty

Cruz Institute’s Academy faculty members are dedicated to professional achievement, and to the preparation of the students for their chosen careers. It is through personal attention that our students reach their potential. The school faculty provides the individual guidance necessary to ensure students receives the skills necessary for career success.

Facility Description

The primary educational facility and administrative offices of the Cruz institute is located in Kissimmee, Florida, in a convenient setting, just minutes from downtown Kissimmee and a few minutes from Poinciana in Osceola County. This location is adjacent to major thoroughfares and is accessible from Central Florida. Affordable housing, public transportation and nearby shopping malls allow the students to live, commute and work near the institution. The campus site occupies 2000 square feet in a Multi-Tenant facility. This facility houses 2 classrooms that are about 700 square feet each plus labs, and offices. Students may attend classes from a selection of offered time schedules. The registration into scheduled courses or labs is based on the availability of courses and instructors. Parking is ample with over a 250-space parking lot, multiple points of egress from the classrooms and building, and near main roads. The building also hosts multiple entrances and exits to the parking lot. The classroom provides adequate space for lectures and smart board presentations

Classroom Description

During class hours, the student will receive access to e-books, handouts and other reading and reference materials. Tools and testing equipment will also be supplied for classroom hands-on training. Students will practice what they learn in theory classes during their lab time.

Required Equipment and Resources Provided by the Institution

Air Conditioning, Refrigeration, and Heating Technology (HVAC) Helper Program Component	Air Conditioning, Refrigeration, and Heating Technology (HVAC) Helper Program Requirements
Appion	Refrigerant Recovery Cylinder
Appion	Refrigerant Recovery Cylinder
Toptech	Vacuum Pump System
Cool-Tech	Vacuum Pump System
Lincoln	Oxyacetylene Torch
Gas Tank	Nitrogen Supply Tank

Air Tank	Oxygen Supply Tank
Gas Tank	Acetylene Supply Tank
Goodman	Heat pump 18000 BTU
Lennox	Heat pump 36000
Rheem	Heat pump 48000 BTU
Goodman	Unit 24000BTU
Comfort	MINI SPLIT, Evaporator,
Goodman	Strait Cool 60000 BTU
General Electric Refrigerator	Residential Refrigerator
Generic Frigerator Part	Refrigeration Condenser
Dukane	LCD Projector
Furniture	Trainer low voltage (table)
All Purpose Generic	Multi-Use Recovery Cylinder
Electrician Helper Program Component	Electrician Helper Program Requirements
Oscilloscope	Elenco Oscilloscope
Meter	Elenco Trainer Analog/Digital
Workbench	Trainer low voltage (table)
LG 42' Television	LCD Television
Racks	Custom Field Simulation Racks
Electrical Conduit Bender	For bending wire conduits
Cutting Tool	For cutting tubes
Hack saw	For customization of installation
VOM multi-meter	Measurement of live electricity
Solder Station	For training on soldering technics
Hammers claw	For customization of installation
Screwdriver	Common use
Needle nose pliers	Common use
Side cutters	Common use
Linesman pliers	Common use
Wire stripper	Common use

Torpedo level	Common use
Tape measure	Common use
Safety glasses	Eye Protection
Hard hat	Head Protection
Gloves	Hand Protection

Policies

Academic Regulations

All students have the responsibility to become acquainted with the content of this catalog. This will assure that the student is informed and in compliance with current academic requirements and policies at Cruz Institute (CI).

Our program is non-credit bearing and does not provide or accept credit by prior learning or examination. In addition, the transfer of credits, certificates or contact hours earned at this institution is at the discretion of the accepting institution. It is the student's responsibility to see if the transfer institution will accept clock hours. Our program is based on the clock hour system which is defined as follows; one clock hour equals 50 minutes of instruction in the presence of an instructor with a ten-minute break. Cruz Institute does not accept credits from another institution.

Admissions Requirements

All students must be 18 years of age to start the program and exhibit the ability to work safely in a sometimes-dangerous environment. High School Diploma or GED is highly recommended. Students that do not have a High School Diploma or GED must take and pass the Online Test of Adult Basic Education (TABE) within 30 days of enrollment. Failure to pass the exam within 30 days, will result in dismissal from the course.

While there are many locations to take the test, we recommend the following location for its accessibility.

Valencia College, Osceola Campus, Bldg. 4, Rm 248 Email: osc-testingcenter@valenciacollege.edu

Minimum scores for program admission are: [Math 596] - [Language 584] - [Reading 576]

Application Process:

The application process takes between 2-5 days. Applications resulting in an approved admission will generate an email or letter (if student does not have an email) of acceptance.

Academic Honesty

Cruz Institute can best function and accomplish its objectives in an atmosphere of high ethical standards. It expects and encourages all students, faculty and staff to contribute to such an atmosphere in every way possible and especially by observing all accepted principles of academic honesty. In regard to online testing in the classroom, all policies of testing partners will be upheld. Anyone violating these policies could face dismissal from the exam and the program in which they are enrolled.

Class Attendance

Properly enrolled students are required to attend the first day of class. Failure to attend may result in the student being dropped. Cruz Institute expects students to attend class at least 95% of the time. If a student reaches 4% absenteeism, they will be warned in writing by the Director of Education and consequently counseled. Additionally, if during the beginning of the course, the student is consecutively absent for more than 7 class sessions, they will be removed from the class and must wait for an available course and restart the program. Students whose absences reach 6% of total class time will be given an Incomplete (I) and dropped from the course. A student receiving an incomplete (I) will have the option to attend the class again within 12-months and the application fee and program tuition will be waived if the student had previously paid those fees in full. Any student not able to make up missed work will receive a (U) grade. Emergency absences due to illness or family matters should be reported to the instructor immediately. Students are expected to be in the classroom 10 minutes before the start of each class in order to be on-time, 3 counts of Tardiness equal 1 absence.

Dismissal by Instructor

Unruly or disruptive behavior in the classroom will not be allowed. An instructor can dismiss a student from class for any conduct that creates an environment where learning cannot continue at a high level of quality. All issues will be reviewed prior to the next class and determined if the student can continue in the program or should be withdrawn. The standard refund policy will apply to forced withdrawals.

Anti-Hazing Policy

This Institution does not condone or encourage any act of hazing being conducted by or associated with the institution. We define hazing as: any action taken, or situation created, whether on or off school property, to produce mental or physical discomfort, pain, harm, embarrassment, moral degradation, harassment or ridicule, including any activities which are not consistent with federal, state or applicable local and institutional laws and/or regulations.

Disciplinary Appeal

In the event of a disciplinary action, the student has the right to appeal the decision by emailing the Director of Education within 14 days of the action. The written appeal should include the students name, contact information and a detailed reason for the appeal. Email will be read by the Director of Education and within 5 business days, you will be emailed regarding a meeting date and time. You will be asked to provide additional information that will support your specific situation and be allowed to explain and speak on your behalf. The Director will then render a decision within 3 business days after the meeting.

Admission Officer	Zenaida Lebron	(407) 530-5951	Info@cruzinstitute.com
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Student not satisfied with the outcome of their grievance may appeal to the Commission for Independent Education at:

Commission for Independent Education
 Florida Department of Education
 325 West Gaines Street
 Tallahassee, FL 32399-0400
 Toll-free telephone number (888)224-6684

Enrollment

Properly enrolled students are defined as students who have completed the enrollment form and process, receiving an email confirmation of enrollment. See Item 1, Enrollment Form in the end of this catalog.

Examinations

Examinations shall be given during the scheduled time and day of the class as designated in the class outline provided by the instructor. Any exception to this policy must be approved by the student and the school representative. All classroom examinations are subject to this policy.

Fees

Cruz institute charges \$15.00 for an application fee. However, all books, labs and classroom materials are included in the cost of the class. The school does not charge late or transcripts fees. The Cruz Institute programs are 471 hours for the Air Conditioning, Refrigeration, and Heating Technology (HVAC) Helper course and 457 hours for the Electrical Technology Helper course. Cruz Institute tuition is \$5,000.00 for each program.

Grades & Satisfactory Academic Progress

Students will receive a **grade** based on the class requirements. A Diploma is awarded for completing the required class hours and materials and when receiving an **average course grade of 70% or higher**.

S	Satisfactory	70% - 100% Course Average Grade
I	Incomplete	50% - 69% Course Average Grade
U	Unsatisfactory	40% - 49% Course Average Grade
W	Withdrawal	0% - 60% Attendance and or 0% - 39% Course Average Grade
Reporting	Progress	Students are given Monthly and Final academic reports

The temporary grade of I (incomplete) is a conditional and temporary grade given when students:

- a. Are currently passing a course or
- b. Still have a reasonable chance of passing in the judgment of the instructor, but for non-academic reasons beyond their control have not completed a relatively small part of all requirements.

Satisfactory Academic progress (SAP) is defined by the average attendance and academic progress maintained by the student.

The Institute requires that all students be evaluated for academic and attendance progress. The evaluation periods are as follows:

Program of Enrollment	Program Duration	1st SAP Evaluation	2nd SAP Evaluation	3 rd SAP Evaluation
Air Conditioning, Refrigeration, and Heating Technology Helper	471 Hours	157	314	471
Electrician Technology Helper	457 Hours	152	304	457

Satisfactory Academic Progress Policy

Students must maintain a minimum cumulative grade point average and successfully complete the hours and of instructional time in order to meet the qualitative and quantitative components of SAP.

Qualitative Component: Minimum Course Average (MCA): In order to meet the graduation requirements, students must achieve **the minimum course average of 70%** at each specified evaluation points, as shown in the Satisfactory Academic Progress tables above.

Quantitative Component: Clock Hours and Weeks Successfully Completed: A student must progress through the program at the minimum pace for the specified evaluation points in order to finish the academic program within the allowable maximum time as shown in the Evaluation and Timeframe table shown below.

SAP – Evaluation and Academic Probation

A student who fails to establish or maintain Satisfactory Academic Progress (fails to meet the SAP Quantitative criteria or SAP Qualitative criteria) will be placed on academic probation and maintain this status of academic probation during the following SAP evaluation period. At the end of the period in which the student is on probation, the student’s overall MCA and clock hours completion percentage will be recalculated. A student will be removed from academic probation only if the student completes the appropriate percentage of coursework and earns an **"S" or better** in all courses attempted during the corresponding period in which he or she is on academic probation and earns a **minimum course average of 70%**.

SAP – Program Withdrawal

If a student on academic probation fails to increase their MCA after the 4th evaluation point, they will be withdrawn from the program.

SAP - Evaluation and Timeframe to Complete Policy

Students are required to complete their program within a reasonable time frame. **The maximum** timeframe is **150%** of the published length of the program of study.

Program of Enrollment	Program Duration	Maximum Allowed Timeframe
Air Conditioning, Refrigeration, and Heating Technology Helper	471 Hours	712 Hours
Electrician Technology Helper	457 Hours	685 Hours

A student that reaches a total of hours attempted equal to the program’s maximum timeframe will be automatically withdrawn.

SAP – Academic Probation Appeals

Any student who has been placed on academic probation but who feels that there were mitigating circumstances that caused him or her to fail the SAP standard, may file a **written appeal** with supporting documentation to the School’s Director of Education, who will make the final decision regarding the student’s appeal within 5 days. If the student’s appeal is granted, the student will be expected to make satisfactory academic progress.

Professional Conduct

Students are to maintain the highest standard of personal, ethical and professional conduct. Each student is expected to display behaviors that are indicative of the program they represent and are expected to carry themselves in a manner that represents the values and beliefs of Cruz Institute.

The Institute reserves the right to place on probation or dismiss of a student due to unprofessional or disorderly conduct that reflects negatively on Cruz Institute, affects other students, or is a potential safety issue.

- All students must be punctual to class.
- In case of absence, the student will be responsible to obtain the covered material from a classmate or instructor, to maintain his/her daily progress.
- The Institute will make reasonable arrangements for the recovery of hours and work missed. It is encouraged that students take advantage of this option.
- A medical certificate is required in case of absence due to a medical condition.
- The Institute provides a comfortable atmosphere, free of intimidations hostilities or other offenses. Conduct such as sexual harassment, or any type of physical or verbal threat that interferes with educational development of the student will not be tolerated.
- Students must pay all financial obligations in due time.
- The student who is caught destroying or damaging School Property will be expelled and/or legally processed.

Probation

The Institute reserves the right to place on probation a student due to unprofessional or disorderly conduct that reflects negatively on Cruz Institute, affects other students, or is a potential safety issue.

Student Services

Student will receive advisement and or counseling with the following topics: Academic Planning which includes academic advising, inquiry about additional online course offerings, registration for courses, completion of administrative forms and the purchase of textbooks.

Student services also include Financial Advisement and Personal Academic issues. In addition, the student will also receive career services assistance, which will consist of identifying opportunities and advising the student on appropriate means of attempting to realize those opportunities.

Student requiring personal advising, will be referred to an outside professional.

Refund and Cancellation Policy:

Should student's enrollment be terminated or cancelled for any reason, all refunds will be made according to the following refund schedule:

1. Cancellation can be made in person, by electronic mail, by Certified Mail or by termination.
2. All monies will be refunded if the school does not accept applicant or if the student cancels within (3) business days after signing the enrollment agreement and making initial payment.
3. Cancellation after the (3rd) Business Day, but before the first class, results in a refund of all monies paid, with the exception of the application fee.
4. Cancellation after attendance has begun, through 40% completion of the program, will result in a Pro Rata refund computed on the number of hours completed to the total program hours.
5. Cancellation after completing more than 40% of the program will result in no refund.
6. Termination Date: In calculating a refund due to a student, the last date of actual attendance is used in the calculation unless earlier written notice is received.
7. Refunds will be made within 30 days of termination of students' enrollment or receipt of Cancellation Notice from student.

Course Cancellation

Students who have registered for a course that is cancelled by the institute will be given the opportunity to register for another course or receive a full refund of tuition and fees associated with that course.

Grounds for Termination

Students are expected to comply with the rules and policies of this institution. Cruz Institute will reserve the right to terminate this contract and enrollment at any time for violation of its rules and policies as outlined in the catalog. The school reserves the right to modify the rules and regulations and will notify current and future students of any modifications.

Graduation Requirements

In order to graduate from our programs, the student must successfully complete the required number of scheduled clock hours as specified in the catalog and on the Student Enrollment Agreement, pass

all written and practical examinations with a minimum of 70% average and satisfy all financial obligations to the school.

Employment Assistance

The school does not make any guarantees of my employment or salary upon graduation. The school will provide placement assistance, which will consist of identifying opportunities and advising the student on appropriate means of attempting to realize those opportunities.

Library

Cruz Institute offers its students a decentralized library that houses dictionaries, thesaurus and industry related textbooks. Students have access to the library during school operation hours.

Special Employer Requirements

Certain employers require that students have clearance of their criminal records before they are able to be employed. It is the student's responsibility to ensure that there is no criminal record that interferes with the practice of the profession they are learning at the school.

Physical capability needs vary by employer. However, some of the basic requirements for students attending Cruz Institute includes the ability to climb ladders to heights over 20 feet, lift at least 50 Lbs, stand for long periods of time, and have enough muscle dexterity to safely work with electricity and fast-moving machine parts. The student must also be able to withstand long term heat and cold.

Procedure to Inspect Education Records

A student has the right to inspect his or her educational records and to challenge the contents. To review records, a student must make a request in writing to 1272 S. John Young Parkway, Kissimmee FL 34741. The written request must identify as precisely as possible the record or records he or she wishes to inspect. An appointment to review the records with the student will then be set up.

Confidentiality of Student Records

Family Educational Rights and Privacy Act Notice of Student's Rights

The Family Educational Rights and Privacy Act (FERPA) afford students certain rights with respect to their education records. These rights are as follows:

1. Students have the right to inspect and review their education records within 45 days of the day the School receives the request.
2. Students have the right to request amendment of their education records that they believe are inaccurate or misleading. If the School denies a student requested amendment, the student has the right to a hearing regarding the requested amendment to his/her education record.
3. Students have the right to consent to disclosures of personally identifiable information in their education records, except to the extent that FERPA authorizes disclosure without consent.
4. Students have the right to file a complaint with the U.S. Department of Education concerning alleged failures by the School to comply with the requirements of FERPA. Such complaints may be sent to the:

Social Security Number Privacy: Cruz Institute collects and uses Social Security Numbers only as necessary for the performance of the Schools duties and responsibilities, which may include the following possible purposes: classification of accounts, identity management, credit worthiness, billing and payments, data collection, reconciliation, and tracking, tax reporting, financial aid processing, accreditation of programs, and reporting to authorized state and federal government agencies. Federal and State laws require us to protect Social Security Numbers from disclosure to unauthorized parties. In addition, the Florida Legislature updated the Sunshine Law, effective October 1, 2009, regarding use, collection, and requests for Social Security Numbers by state agencies.

Florida Statute 119.071 [Excerpts] (5)(a)

1.c. The Legislature intends to monitor the use of social security numbers held by (State) agencies in order to maintain a balanced public policy.

2.a. An agency may not collect an individual's social security number unless the agency has stated in writing the purpose for its collection and unless it is:

(I) specifically authorized by law to do so; or

(II) Imperative for the performance of that agency's duties and responsibilities as prescribed by law.

b. An agency shall identify in writing the specific federal or state law governing the collection, use, or release of social security numbers for each purpose for which the agency collects the social security number...

c. Social security numbers collected by an agency may not be used by that agency for any purpose other than the purpose provided in the written statement.

3. An agency collecting an individual's social security number shall provide that individual with a copy of the written statement required in subparagraph 2. The written statement also shall state whether collection of the individual's social security number is authorized or mandatory under federal or state law. This act shall take effect October 1, 2009.

Equal Educational and Employment Opportunity

Cruz Institute is fully committed to the principle of providing equality of treatment and opportunity to all persons in an environment which appreciates and respects the diversity of the community it serves. (CI) policy prohibits discrimination in employment and educational services based on race, color, religion, national origin, sex, age, disability, veteran status, or sexual orientation, except where such a distinction is required by law.

Language of Instruction

Cruz Institute teaches some courses in English and others in Spanish. The language for the selected course is based on the need of the population. The frequency of this practice is determined by the dominant language in the class and is inherent due to our clientele's grasp of the English language.

Disclaimer: COMPLETING A COURSE OR PROGRAM IN A LANGUAGE OTHER THAN ENGLISH MAY REDUCE EMPLOYABILITY WHERE ENGLISH IS REQUIRED.

Student Complaint/Grievance Procedure

A student who has a complaint that a policy or procedure has been incorrectly or unfairly applied in his/her particular case, or a complaint about the behavior of a staff member that does not fall within any of the categories listed here, the complaint will be handled as follows:

Informal Resolution

Students are encouraged to speak directly with the staff member most concerned with or responsible for the situation that is the cause of the complaint. If this communication does not lead to a resolution, or such a discussion is not deemed appropriate, the student may register an informal complaint or file a formal written complaint.

Informal Complaint

A student may register an informal complaint within thirty (30) days of the event that triggered the complaint. The earlier the communication is made, however, the more likely it is to resolve the matter satisfactorily. Complaints involving academic matters should be made to the Director of Education. Other types of complaints should also be made to the Director of Education. Informal complaints may be made in person, by telephone, or email. The Director of Education will review the matter presented by the student and determine whether any action is required. The student will be notified of the Director of Education within 20 days of the informal complaint. If the student is not satisfied with the decision and/or attempts at resolution, he/she may go on to make a formal complaint.

Formal Complaint

A formal complaint must be submitted in writing to the Director of Education. Formal complaints must be filed within sixty (60) days of the event that triggered the complaint and state the nature of the grievance and the remedy being sought. Any previous attempts to resolve the issue should also be described.

Receipt of the complaint will be acknowledged within fifteen (15) days. The appropriate university administrator will then review the matter. A final written determination, including any proposed resolution, will be sent to the student within thirty (30) days of the receipt of the complaint. The Director of Education will keep a complete record of formal complaints. Records of the outcome of all formal complaints will also be stored in a centralized database and the student's electronic file.

If the Director of Education, has not resolved the complaint, to the satisfaction of the student, the complaint may be referred to:

Commission for Independent Education
Florida Department of Education
325 West Gaines Street
Tallahassee, FL 32399-0400
Toll-free telephone number (888)224-6684

Diploma Programs

Air Conditioning, Refrigeration, and Heating Technology Helper

Program Objective:

The objective of this program is to prepare students for employment or advanced training in the heating, air-conditioning, and refrigeration and ventilation industry. This program focuses on broad, transferable skills, stresses the understanding of the heating, air-conditioning, refrigeration, and ventilation industry, and demonstrates elements of the industry such as planning, management, finance, technical and production skills, the underlying principles of technology, and health, safety and environmental issues.

Program Description:

This program offers a sequence of courses that provide coherent and rigorous content aligned with challenging standards and relevant technical skills. It also provides awareness of work attitudes, general employability skills, technical skills, and occupation-specific skills. The content includes but is not limited to designing, testing, and repairing heating, ventilation, air-conditioning, and cooling (HVAC) systems.

Program tuition includes on-site testing for the EPA 608 technician certification. Upon passing the test, the student can be employed as a Certified Technician. Without this certification the graduate is limited to employment of working for a certified technician. The student should obtain EPA certification prior to leaving school to be employed in any job that requires work with refrigerants.

Completion Award: Diploma

Program Duration: 471 hours

Program Completion Time: 13 Months

Program Tuition: \$5,000.00

Application/Registration Fee: \$15

Books: The cost of books is included in tuition

Total Program Cost: \$5,015.00

Admission Requirements: All students must be 18 years of age to start the program and exhibit the ability to work safely in a sometimes-dangerous environment. High School Diploma or GED is highly recommended. Students that do not have a High School Diploma or Ged must take and pass the Online Test of Adult Basic Education (TABE) within 30 days of enrollment. Failure to pass the exam within 30 days, will result in dismissal from the course. While there are many locations to take the test, we recommend the following location for its accessibility.

Valencia College, Osceola Campus, Bldg. 4, Rm 248 Email: osc-testingcenter@valenciacollege.edu

Minimum scores for program admission are: [Math 596] - [Language 584] - [Reading 576]

Electrician Technology Helper

Program Objective:

The objective of this program is to prepare students for employment or advanced training in a variety of electrician related industries. The content includes but is not limited to planning and installing electrical wiring, equipment, or fixtures based on job specifications and local codes.

Program Description:

The Electrician Technology Helper program prepares individuals with the knowledge and skills needed for employment in the residential electrical trade. The curriculum offers a basic framework of electrical theory and code and provides the hands-on skills needed to install, service and maintain electrical equipment in residential settings. Class includes instruction on electrical safety, trade tools, electrical theory, blueprint reading, common residential wiring installations, wiring alterations and additions to existing structures, troubleshooting, and repairing residential service, and determining circuit load calculation. Students should be aware that employment after this training is limited to working for a licensed electrician. Students can't work for themselves until obtaining the Journeyman License which requires several years of experience to qualify for the test.

Completion Award: Diploma

Program Duration: 457 hours

Program Completion Time: 13 Months

Program Tuition: \$5,000.00

Application/Registration Fee: \$15

Books: The cost of books is included in tuition

Total Program Cost: \$5,015.00

Admission Requirements: All students must be 18 years of age to start the program and exhibit the ability to work safely in a sometimes-dangerous environment. High School Diploma or GED is highly recommended. Students that do not have a High School Diploma or Ged must take and pass the Online Test of Adult Basic Education (TABE) within 30 days of enrollment. Failure to pass the exam within 30 days, will result in dismissal from the course. While there are many locations to take the test, we recommend the following location for its accessibility.

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Minimum scores for program admission are: [Math 596] - [Language 584] - [Reading 576]

Course Directory and Descriptions

Course Numbering System Description

This section is intended to give the reader information regarding the legend of our course numbers. Course numbers are based on course codes established by the institution and do not relate to state common course numbering systems.

Our course numbering system consists of 5 digits, one Alpha Prefix followed by four-digit course numbers. The Alpha Prefix identifies the academic discipline (H=HVAC and E=Electrician). The following two numbers identify the year the course was created (18=2018), and the last two numbers 1 through 20 identify the course sequence (5= fifth course).

Sample Course Number..... (ME1010)

- Letters = **Discipline.**
- Digits 2+3 = **Year Created**
- Digits 4+5 = **Program Sequence**

Air Conditioning, Refrigeration, and Heating Technology Helper

20-Hours	H1801 Health, safety and environmental management systems. (20-Hours)
1.5	01.01 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
1.5	01.02 Explain the reasons for regular safety meetings and for company safety policies.
1.0	01.03 Explain the need for employee-background checks and medical examinations.
1.0	01.04 Identify and use appropriate fire extinguishers and other such safety devices.
1.5	01.05 Identify and follow emergency and rescue procedures.
1.5	01.06 Identify and use safe-handling practices as they relate to hazardous and volatile fluids, compounds and gases.
1.5	01.07 Understand and apply Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Department of Transportation (DOT) hazardous materials safety requirements, lock-out and tag out, and electrical safety.
1.5	01.08 Select and wear proper protective clothing and equipment.

1.5	01.09 Describe the purpose and requirements of local, state and federal heating, air-conditioning and refrigeration codes and standards as well as the manufacturer's installation instructions.
2.0	01.010 Identify and use OSHA practices when working with heating, air-conditioning and refrigeration systems and equipment.
1.5	01.011 Follow safety precautions when using hand and power tools.
1.5	01.012 Explain emergency procedures to follow in response to workplace accidents.
2.5	01.013 Create a disaster and/or emergency response plan.
15-Hours	H1802 Tools in the heating, air-conditioning, and refrigeration industry. (15-Hours)
8.0	02.01 Identify and use basic hand tools and tool accessories; power tools (electric and mechanical); pipe and tube-working tools; and specialized tools of the trade.
7.0	02.02 Apply appropriate care and maintenance procedures for tools and tool accessories, following the directions in the tool-equipment manufacturer's manual.
20-Hours	H1803 Mathematics knowledge and skills. (20-Hours)
10.0	03.01 Demonstrate knowledge of arithmetic operations.
10.0	03.02 Analyze and apply data and measurements to solve problems and interpret documents.
25-Hours	H1804 Basic electricity and components of heating, air-conditioning, and refrigeration equipment. (25-Hours)
2.5	04.01 Explain the principles of electricity.
2.5	04.02 Explain single- and three-phase power distribution.
2.5	04.03 Define and explain watts, ohms, volts and amps.
2.5	04.04 Identify and explain electrical measuring tools and devices.
2.5	04.05 Explain the standards for and ways to measure watts, resistance, voltage and amperage, using appropriate instruments or devices.
2.5	04.06 Identify and explain appropriate electrical wiring symbols.
2.5	04.07 Draw and explain a wiring schematic diagram for a control system.
2.5	04.08 Create a wiring schematic for an air conditioner an electric furnace, a heat pump, an oil furnace (optional) and a gas furnace.
2.5	04.09 Explain codes and standards and safety requirements for working with the electrical components used in heating, air conditioning and refrigeration.
2.5	04.010 Troubleshoot protection devices, such as fuses and breakers.

25-Hours	H1805 Troubleshooting heating, air-conditioning, and refrigeration electrical control systems. (25-Hours)
5.0	05.01 Identify and explain the operations of electrical control systems and their components (zone damper motors, dual fuel lock-out controls, outdoor thermostats/low ambient controls, defrost controls/timers and auxiliary heating controls, contactors, relays, circuit boards, motors, solenoids, and thermostats.).
4.0	05.02 Identify, install and troubleshoot controls for heating, air-conditioning and refrigeration systems.
4.0	05.03 Explain the operation of different types of electromechanical communicating, humidity control, and Wi-Fi operating thermostats.
4.0	05.04 Wire basic heating, air-conditioning, and refrigeration systems.
4.0	05.05 Troubleshoot operational problems for different types of electromechanical communicating, humidity control, and Wi-Fi operating thermostats.
4.0	05.06 Explain the electrical and mechanical operations of the basic heat pump.
25-Hours	H1806 Select and test electrical generation and distribution components for commercial heating and air conditioning systems.
5.0	06.01 Determine wire sizes and voltage drops.
4.0	06.02 Describe the operation of various types of transformers.
5.0	06.03 Draw and identify various power-transformers.
11.0	06.04 Test, size and replace protection devices such as fuses and breakers, motor starters and overloads.
25-Hours	H1807 Maintain, test and troubleshoot electrical motors and their components for commercial heating and air-conditioning systems. (25-Hours)
2.0	07.01 Explain how alternating current is developed and draw a sine wave.
2.0	07.02 Identify single-phase and three-phase wiring arrangements.
2.0	07.03 Explain how phase shift occurs in inductors and capacitors.
2.0	07.04 Describe the types of capacitors and their applications.
2.0	07.05 Explain the operation of single-phase and three-phase induction motors.
1.0	07.06 Identify the various types of single-phase motors and their applications.
2.0	07.07 Identify and explain the operations and applications of various types of electrical motors and their components as used in commercial heating and air-conditioning systems.
6.0	07.08 Maintain, test and troubleshoot various types of commercial electrical motors and their components as used in commercial heating and air-conditioning systems.
6.0	07.09 Demonstrate the proper use of motor testing equipment.

20-Hours	H1808 Troubleshoot and wire electrical motors and their components. (20-Hours)
4.0	08.01 Identify and explain the functions of various types of motors and their components.
8.0	08.02 Troubleshoot, test and analyze motors, using various methods.
4.0	08.03 Identify, troubleshoot and wire various types of electric motors.
4.0	08.04 Reverse the rotation of a motor.
20-Hours	H1809 Operate solid-state electronics as used in heating, air-conditioning, and refrigeration systems. (20-Hours)
2.0	09.01 Explain the basic principles and functions of Direct Digital Control (DDC).
3.0	09.02 Explain basic solid-state circuits and boards.
10.0	09.03 Identify, test, and replace circuits and boards.
5.0	09.04 Program a programmable thermostat.
25-Hours	H1810 Evaluate single-phase and three-phase power as used in heating, air-conditioning, and refrigeration systems. (25-Hours)
5.0	010.01 Explain how the principles of designing an electrical system for residential heating and air-conditioning systems apply to commercial heating and air-conditioning systems.
5.0	010.02 Define and compare single- and multiphase voltage and current related to commercial heating and air-conditioning systems.
5.0	010.03 Calculate various circuit loads in commercial heating and air-conditioning applications using Ohm's law.
10.0	010.04 Troubleshoot electrical circuits for commercial heating and air-conditioning systems
18-Hours	H1811 History and concepts of heating, air-conditioning, and refrigeration. (18-Hours)
2.5	011.01 Explain the basic principles of heating, ventilation and air-conditioning.
2.5	011.02 Identify and explain the four major refrigeration components.
3.0	011.03 Identify and explain the characteristics of a compression-cycle refrigerant system.
2.5	011.04 Differentiate between air-conditioning and refrigeration.
2.5	011.05 Differentiate between split systems and package systems.
2.5	011.06 Describe the benefits of conditioned air and environments.

2.5	011.07 Identify various professional organizations, associations and societies and explain their purposes.
25-Hours	H1812 Properties of matter and heat behavior. (25-Hours)
3.5	012.01 Describe and explain freezing point, critical temperature and absolute zero.
4.0	012.02 Explain the gas laws (Dalton, Boyle and Charles) used when dealing with air and its properties.
3.5	012.03 Describe matter, heat and heat transfer.
3.5	012.04 Differentiate between heat and temperature.
3.5	012.05 Explain and distinguish among the characteristics of the three states of matter.
3.5	012.06 Explain the relationship between temperature and humidity.
3.5	012.07 Differentiate between latent heat and sensible heat.
30-Hours	H1813 Fluids, pressures, refrigerants, and related codes. (30-Hours)
3.0	013.01 Identify the refrigeration cycle.
3.0	013.02 Identify and explain general safety issues and EPA rules and regulations regarding the handling of refrigerants.
3.0	013.03 Define and explain pressure, fluid and temperature.
3.0	013.04 Explain the standards for and ways to measure and calculate absolute and gauge pressures.
3.0	013.05 Identify and explain the classifications, properties and uses of different refrigerants.
3.0	013.06 Explain how fluids react and flow in a closed versus an open environment or vessel.
3.0	013.07 Define and identify "color-coding" of refrigerant cylinders.
3.0	013.08 Compare Pressure and Temperature (P/T) charts.
3.0	013.09 Explain the proper methods of transferring, storing and recovering refrigerants.
3.0	013.010 Explain the effects of an improper refrigerant and contaminants in a system.
18-Hours	H1814 Heating, air-conditioning and refrigeration system components and accessories. (18-Hours)
4.0	014.01 Explain the types, operation, use and maintenance requirements of
-	i. Compressors (such as reciprocating, rotary, screw and scroll)

-	ii. Condensers and evaporators (such as evaporative condensers, evaporative coils, shell and tube, tube within a tube and fin and tube)
-	iii. Metering devices (such as adjusting automatic and thermostatic expansion valves, fixed orifices and other devices available on the local market)
2.0	014.02 Evaluate metering-device performance.
1.0	014.03 Explain the methods of compression, lubrication and compressor loading and unloading.
1.5	014.04 Analyze the operating condition of a compressor.
4.0	014.05 Test, troubleshoot and correct the causes of mechanical problems in a heating, air-conditioning and refrigeration system.
1.0	014.06 Identify the location and explain the uses of refrigerant flow accessories.
3.0	014.07 Identify the location and explain the uses of heating, air-conditioning and refrigeration-system accessories (such as receivers, dryers/filters, solenoid valves, heat exchangers, accumulators, suction filter, oil separators, evaporator pressure-regulating valve, crankcase pressure-regulating valves, hot gas bypass valves and check valves).
1.5	014.08 Evaluate system performance.
25-Hours	H1815 Test and troubleshoot commercial evaporators. (25-Hours)
3.5	015.01 Determine the operational requirements for evaporators used in commercial heating and air-conditioning applications.
3.5	015.02 Discuss appropriate evaporators for commercial heating and air-conditioning systems
5.0	015.03 Maintain, test and adjust various commercial heating and air-conditioning accessories.
5.0	015.04 Maintain, test and adjust commercial heating and air-conditioning accessories.
4.0	015.05 Compare commercial accessories with residential and light- commercial-heating and air-conditioning accessories.
4.0	015.06 Select the heating and air-conditioning accessories appropriate for various commercial applications.
25-Hours	H1816 Fabricate and service the piping, tubing and fittings. (25-Hours)
1.5	016.01 Identify and explain the purpose of the piping, tubing and fittings used in the heating, air-conditioning and refrigeration industry.
1.5	016.02 Bend tubing, using tube benders.
1.5	016.03 Connect tubing using flared fittings and compression fittings.
1.5	016.04 Connect tubing, using solderless connectors.

1.5	016.05 Connect tubing, using a swaged-joint connection.
1.5	016.06 Identify and use various types of torches.
1.5	016.07 Identify, select and use appropriate brazing alloys, materials and skills.
1.5	016.08 Explain the purposes and procedures for protecting piping materials and fabrication, such as valves, fittings and products from heat.
1.5	016.09 Braze tubing.
1.5	016.010 Silver-braze brass, steels and copper.
1.5	016.011 Demonstrate an understanding of the procedures for installing pipe and tubing insulation.
1.5	016.012 Explain the procedures required for installing heating, air-conditioning, refrigerant and ventilation accessories.
5.5	016.013 Fabricate and leak-test the piping, tubing and fittings used in the heating, air-conditioning and refrigeration industry.
1.5	016.014 Demonstrate proper safety measures when fabricating and servicing piping, tubing and fittings.
25-Hours	H1817 Utilize and operate mechanical refrigeration servicing and testing equipment. (25-Hours)
1.5	017.01 Identify the effects of superheat and sub-cooling on a system.
2.5	017.02 Identify and explain the functions of servicing and testing equipment (such as vacuum pumps, micron gauges, EPA-approved equipment, leak detectors and charging systems).
3.5	017.03 Operate a refrigerant recovery system.
2.5	017.04 Apply specific safety and recovery practices for refrigerants used in the industry.
2.5	017.05 Apply specific safety practices as they relate to handling and storing cylinders and materials.
1.5	017.06 Explain the standards for and ways to measure, test, maintain and evacuate a mechanical heating, air-conditioning and refrigeration system.
2.5	017.07 Evacuate the refrigerant system with various vacuum methods.
2.5	017.08 Demonstrate compliance with Environmental Protection Agency (EPA) rules and regulations and, if possible, take the EPA test.
2.5	017.09 Charge various air-conditioning and mechanical refrigeration systems by various methods.
3.5	017.010 Demonstrate the effects of superheat and sub-cooling on a system utilizing test equipment (such as thermometers and gages).
35-Hours	H1818 Assist in the installation of a residential heating and air-conditioning system and determine start-up procedures. (35-Hours)

3.5	018.01 Read and comply with dispatch orders.
3.5	018.02 Explain local codes and ordinances.
3.5	018.03 Select and use appropriate tools and safety practices to test equipment.
3.5	018.04 Determine the electrical requirements of equipment.
3.5	018.05 Assist in the installation of a heating and air-conditioning system to the manufacturer's installation and operation specifications, using a practical knowledge of duct fabrication methods.
3.5	018.06 Determine which charging method is appropriate for a given type of system in a residential air-conditioning unit and adjust superheat and/or sub-cooling.
3.5	018.07 Determine the temperature split/ difference across the evaporator.
3.5	018.08 Determine the temperature split/ difference across the condenser.
3.5	018.09 Write a service report.
3.5	018.010 Apply good customer-relations skills.
25-Hours	H1819 Conduct start-up and check-out procedures for mechanical heating and air-conditioning systems. (25-Hours)
3.5	019.01 Identify and explain the following heat-pump systems air-to-air, water-to-air, water-to-water, air-to-ground (geothermal), open-loop and closed-loop.
4.0	019.02 Determine the start-up and checkout procedures recommended by different manufacturers.
3.5	019.03 Determine the electrical requirements of equipment.
3.5	019.04 Select and use appropriate tools, instruments and test equipment following safety precautions.
4.0	019.05 Determine the temperature split/ difference across the outdoor coil on a heat pump.
4.0	019.06 Determine the temperature split/ difference across the indoor coil on a heat pump.
2.5	019.07 Apply good customer-relations skills.
25-Hours	H1820 Demonstrate a working knowledge of refrigerants and oils. (25-Hours)
1.5	020.01 Identify the refrigerants in common use and state the types of applications in which each is used.
2.5	020.02 Explain the effects of releasing refrigerants into the atmosphere.
2.5	020.03 Explain how refrigerants are classified by their chemical composition.

2.5	020.04 Describe the color-coding scheme used to identify refrigerant cylinders.
3.5	020.05 Describe how azeotropes and near-azeotropes differ from each other and from so-called pure refrigerants.
2.5	020.06 Interpret a P-T chart for pure refrigerants, azeotrope, and near-azeotrope refrigerants and explain the difference between bubble point and dew point.
3.5	020.07 Demonstrate refrigerant leak detecting methods.
1.5	020.08 Identify the different types of oils used in refrigeration systems and explain their relationships to the various refrigerants.
2.5	020.09 Explain how to add and remove oil from a system.
2.5	020.010 Describe how to test oil for contamination.

Electrician Technology Helper

30-Hours	E1801 Health, safety and environmental stewardship and related regulatory compliance. (30-Hours)
3.5	01.01 Clean the work area and maintain it in a safe condition.
3.5	01.02 Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments.
3.5	01.03 Identify and operate workplace-safety electrical devices.
3.5	01.04 Identify health-related problems that may result from exposure to work-related chemicals and hazardous materials, and know the proper precautions required for handling such materials.
3.5	01.05 Explain emergency procedures to follow in response to workplace accidents.
5.5	01.06 Create a disaster and/or emergency response plan for specific incidences.
3.5	01.07 Explain the importance of CPR (cardiopulmonary resuscitation) and first aid.
3.5	01.08 Describe "Right-to-Know" Law as recorded in (29 CFR.1910.1200).
17-Hours	E1802 Identify, use and maintain the tools and accessories used in the electrical industry. (17-Hours)
1.0	02.01 Identify and select tools, equipment, materials and wires to complete a job.
4.0	02.02 Drill holes in metal, wood and concrete for electrical wiring.
4.0	02.03 Lay out electrical devices, complying with regulations.
8.0	02.04 Install the following, complying with the appropriate local, state or national electric codes: <ul style="list-style-type: none"> a. Conductors and cable b. Standard outlets and switch boxes

		c. Cord connections on equipment d. Cords switches, receptacles and dimmers, including a single-pole switched lighting circuit, a three-way switched lighting circuit and a four-way combination circuit
30-Hours	E1803	Basic Direct-Current (DC) electrical-circuit skills. (30-Hours)
3.0	03.01	Define the following terms: voltage, current, resistance and power.
5.0	03.02	Measure voltage, amperage and resistance using industry standard electrical measuring devices.
6.0	03.03	Analyze and explain a series, series-parallel and parallel circuit.
5.0	03.04	Draw each type of circuit and calculate the circuit values.
5.0	03.05	Explain and apply Ohm's Law.
6.0	03.06	Compute conductance and resistance of conductors and insulators.
25-Hours	E1804	Basic mathematics skills for electricity. (25-Hours)
10.0	04.01	Demonstrate knowledge of arithmetic operations.
5.0	04.02	Analyze and apply data and measurements to solve problems and interpret documents.
10.0	04.03	Construct charts/tables/graphs using functions and data.
25-Hours	E1805	Basic theory of electricity. (25-Hours)
10.0	05.01	Explain the principles of electromagnetism.
10.0	05.02	Explain the magnetic properties of circuits and devices.
2.5	05.03	Relate electricity to the nature of matter.
2.5	05.04	Describe various ways that electricity is produced.
25-Hours	E1806	Read and interpret basic electric codes. (25-Hours)
4.5	06.01	Describe the importance of following the local, state and national electric codes.
5.0	06.02	Read and interpret basic electric codes, wiring plans and specifications.
5.5	06.03	Identify licensure requirements for electrical occupations.
10.0	06.04	Demonstrate knowledge of National Fire Protection Association (NFPA) 70E and how it relates to job safety.
25-Hours	E1807	Advanced mathematics knowledge and skills for electricity. (25-Hours)
10.0	07.01	Demonstrate and solve basic algebraic formulas related to electricity.
7.0	07.02	Solve basic trigonometric functions related to electrical theory.
4.0	07.03	Explain basic AC theory and solve related mathematical problems using appropriate test equipment.
4.0	07.04	Solve math-related problems from measurements on training aids. (Optional)
30-Hours	E1808	Advanced theory of electricity. (30-Hours)
10.0	08.01	Explain molecular action as a result of temperature extremes, chemical reaction and moisture content.

10.0	08.02	Explain how voltage is produced by chemical, mechanical, thermal, photoelectric and piezo electric means.
10.0	08.03	Identify electrical symbols in construction documents.
30-Hours	E1809	Science knowledge and skills related to electrical principles. (30-Hours)
15.0	09.01	Discuss the role of creativity in constructing scientific questions, methods and explanations.
15.0	09.02	Formulate scientifically investigable questions, construct investigations, collect and evaluate data and develop scientific recommendations based on findings.
30-Hours	E1810	Proficiency in electrical math problems and skills. (30-Hours)
5.0	10.01	Calculate wiring costs.
5.0	10.02	Draw an industrial electrical-wiring plan.
5.0	10.03	Describe the use of high-voltage test equipment.
5.0	10.04	Describe how to test insulation.
5.0	10.05	Describe how to balance a load.
5.0	10.06	Use electrical related math skills.
35-Hours	E1811	Alternating-Current (AC) circuit skills. (35-Hours)
4.0	11.01	Identify the physical and electrical characteristics of capacitors and inductors.
4.0	11.02	Demonstrate proficiency in measuring, testing and connecting a transformer.
4.0	11.03	Apply the principles of transformers to AC circuits.
4.0	11.04	Identify the properties of an AC signal.
4.0	11.05	Identify AC sources.
4.0	11.06	Analyze and apply the principles of transformers to AC circuits.
4.0	11.07	Analyze polyphase circuits.
7.0	11.08	Install a simple polyphase circuit.
25-Hours	E1812	Employability and entrepreneurship skills. (25-Hours)
2.5	12.01	Identify and demonstrate positive work behaviors needed to be employable.
3.5	12.02	Develop personal career plan that includes goals, objectives and strategies.
2.5	12.03	Examine licensing, certification and industry credentialing requirements.
2.5	12.04	Maintain a career portfolio to document knowledge, skills and experience.
3.0	12.05	Evaluate and compare employment opportunities that match career goals.
2.5	12.06	Identify and exhibit traits for retaining employment.
2.5	12.07	Identify opportunities and research requirements for career advancement.
2.5	12.08	Research the benefits of ongoing professional development.

3.5	12.09	Examine and describe entrepreneurship opportunities as a career planning option.
65-Hours	E1813	Install residential wiring. (65-Hours)
16.0	13.01	Identify residential-wiring requirements and specifications in accordance with a wiring plan.
17.0	13.02	Draw a residential wiring plan, using electrical-wiring symbols.
16.0	13.03	Identify and install a recessed lighting fixture, a fluorescent lighting fixture and a surface lighting fixture according to the specifications, complying with the appropriate local, state or national electric codes.
16.0	13.04	Identify, install and wire a duplex- receptacle-outlet circuit, a split-circuit duplex- receptacle-outlet circuit and a special-purpose receptacle-outlet circuit according to the specifications, complying with the appropriate local, state or national electric codes.
65-Hours	E1814	Install residential wiring systems. (65-Hours)
9.0	14.01	Install and wire a low-voltage signal system.
9.0	14.02	Install conduit systems.
9.0	14.03	Provide power for heating, ventilation and air-conditioning equipment.
13.0	14.04	Install the following, complying with the appropriate local, state, or national electric codes: a. Service-entrance main panel b. Service-entrance meter base c. Alarm system/smoke detectors
9.0	14.05	Demonstrate knowledge of the requirements for the installation of a swimming-pool electrical system.
6.0	14.06	Connect single-phase and three-phase transformers.
10.0	14.07	Troubleshoot residential electric circuits.

Thank you for Choosing Us!



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