



***TECH ZONE***  
HVAC SCHOOL

# **Student Handbook**

**Licensed & Regulated by  
TWC Career Schools and Colleges  
License # S3960**

ESCO Certified Proctors of the EPA 608 Universal  
Technician Certification Exam

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## **School Administrators & Officials**

**Jeremiah Sawyer (President), Ripple Learning, LLC**

**Michael Erwin (Campus Director / Admissions)**

TWC School Representative Certified

## **School Faculty**

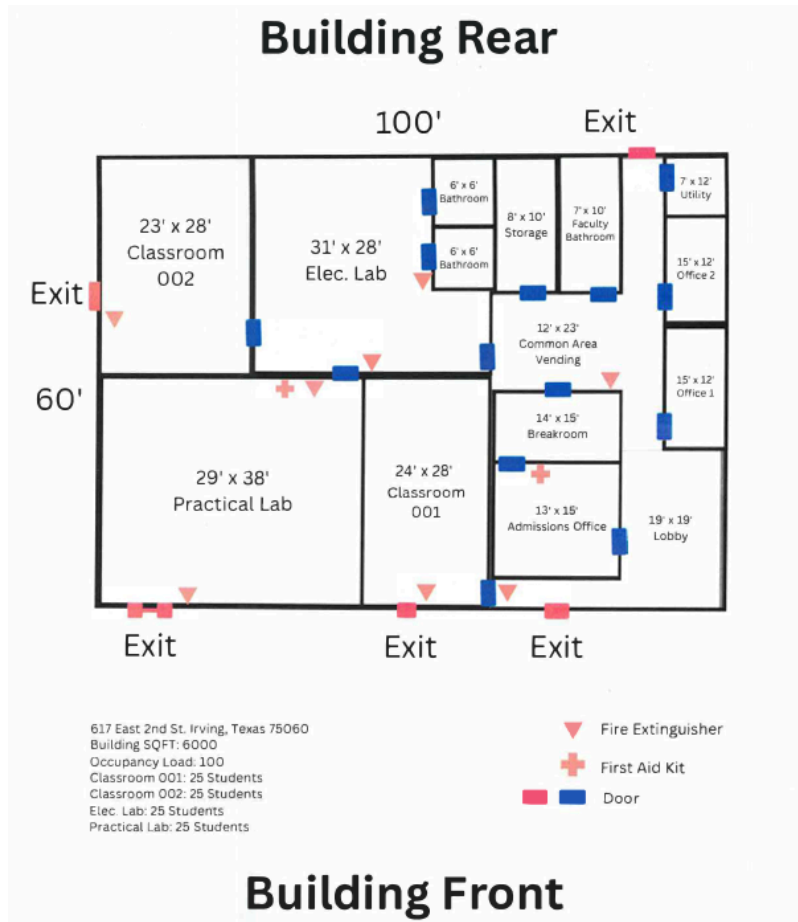
**Branton Harden (Instructor)**

TWC Approved Instructor with 11+ years combined HVAC service and instruction experience alongside 5 years of educational and training program development. TWC School Representative Certified. ESCO Certified Proctor. EPA Universal / NATE Certified.

**Eddie Smith (Lead Instructor)**

TWC Approved Instructor with 22 years of combined HVAC service and instruction experience. TWC School Representative Certified. ESCO certified Proctor. EPA Universal Certified.

# Facilities & Equipment



## Equipment:

Residential Air Handlers (Electric) | Residential Furnaces (Gas) | Residential Condensers (Standard & Heat Pump) | Mini-split Systems | Commercial Package Units (Gas & Electric) | Ice Merchandiser | HVAC Wiring Trainer Boards | Electrical Diagnostic Trainer Boards | Brazing Stations | Motor Diagnostics Station

## Tools:

Digital Multimeters (Volts/Amps/Ohms/Temp) | Manifold Gauges (Digital & Analog) | Micron Gauges | Hand Tools (Pliers, Nut Drivers, Screw Drivers, Etc.) | Recovery Machines | Recovery Cylinders (Tanks) | Refrigerant Scales | Vacuum Pumps | Nitrogen Tanks (With Regulators) | Oxy-Acetylene Torch Kits | Manometers | Safety Equipment

# **School Calendar**

## **Holidays Observed:**

*Classes will not be held on these holidays.*

New Years Day - Thanksgiving Day - Christmas Day

## **Enrollment Periods:**

*Classes are held back to back.*

*Class dates may shift based on holidays, weather, enrollment, or staff.*

**Admissions Office Hours:** Monday - Friday 9:00AM - 6:00PM  
Saturday and After Hours by Appointment Only

## **Class Beginning & Ending Periods: (Class Schedules)**

<b>Class:</b>	<b>Day Class (2 Week)</b>	<b>Night Class (5 Week)</b>	<b>Night Class (12 Week)</b>	<b>Saturday Class (10 Week)</b>
<b>Days:</b>	Mon - Fri	Mon - Fri	Mon/Wed or Tue/Thu	Saturdays Only
<b>Times:</b>	8:00AM - 6:00PM	7:00PM - 11:00PM	7:00PM - 11:00PM	8:00AM - 6:00PM

## **Student Breaks & Mealtimes:**

"Full-Time Classes" and Saturday classes will have a 5 minute break twice a day and a mealtime break from 12:50 until 1:10 each day. "Part-Time Classes" will have one 5 minute break.

# **Enrollment Policies**

## **Admission / Enrollment Requirements:**

*In order to enroll into the program a student must meet all of the following criteria.*

- Must be 18 years of age and provide a photo ID (*Driver's License, Passport, etc.*)
- Must provide proof of education or pass the school's entrance exam.  
(*High School Diploma, High School Transcripts, GED*)
- Must provide Social Security Number or ITIN

## **Enrollment Periods:**

*Classes are held back to back.*

*Class start dates may shift based on holidays, weather, enrollment, or staff.*

**Admissions Office Hours:** Monday - Friday 9:00AM - 6:00PM  
*Saturday and After Hours by Appointment Only*

## **Policy on Granting Enrollment Credit for Prior Education & Training:**

Due to the hands-on nature of this certificate program, prior educational credits cannot be applied toward completion. The program is designed to provide practical training and does not incorporate transferable credits from previous coursework.

## **Fees & Tuition:**

**Minimum Deposit:** \$200.00

**Tuition:** \$3350 (*includes \$200 deposit*)

**Book Replacement Fee:** \$250 If the book is unreturned or returned damaged per book policy.

**Payment Processing Fee:** A 4% convenience fee will be added to payments made by credit or debit cards.

**EPA 608 Certification Exam Re-Test:** The program includes (1) EPA 608 Exam voucher with study guide. There is a \$45 charge for each exam retake.

# **Cancellation / Withdrawal Policies**

A full refund will be made to any student who cancels the enrollment contract within 72 hours (until midnight of the third day excluding Saturdays, Sundays and legal holidays) after the enrollment contract is signed. A full refund will also be made to any student who cancels enrollment within the student's first three scheduled class days, except that the school may retain not more than \$100.00 (\$10.00 for Veteran Benefit Applicants) in any administrative fees charged, as well as items of extra expense that are necessary for the portion of the program attended and stated separately on the enrollment agreement.

## **Refund Policy**

1. Refund computations will be based on scheduled course time of class attendance through the last date of attendance. Leaves of absence, suspensions and school holidays will not be counted as part of the scheduled class attendance.
2. The effective date of termination for refund purposes will be the earliest of the following:
  - a. The last date of attendance, if a student is terminated by the school.
  - b. The date of receipt of written notice from the student.
  - c. Ten school days following the last date of attendance.
3. If tuition and fees are collected in advance of entrance, and if after expiration of the 72-hour cancellation privilege the student does not enter school, not more than \$100.00 (\$10.00 for Veteran Benefit applicants) in non-refundable administrative fees charged shall be retained by the school for the entire residence program or synchronous distance education course.
4. If a student enters a residence or synchronous distance education program and withdraws or is otherwise terminated after the cancellation period, the school or college may retain not more than \$100.00 (\$10.00 for Veteran Benefit applicants) in any administrative fees charged for the entire program. The minimum refund of the remaining tuition and fees will be the pro rata portion of tuition, fees, and other charges that the number of hours remaining in the portion of the course or program for which the student has been charged after the effective date of termination bears to the total number of hours in the portion of the course or program for which the student has been charged, except that a student may not collect a refund if the student has completed 75 percent or more of the total number of hours in the portion of the program for which the student has been charged on the effective date of termination. (*See Note #1*)
5. Refunds for items of extra expense to the student, such as books, tools, or other supplies are to be handled separately from refund of tuition and other academic fees. The student will not be required to purchase instructional supplies, books and tools until such time as these materials are required. Once these materials are purchased, no refund will be made. For full refunds, the school can withhold costs of these types of items from the refund if they were necessary for the



portion of the program attended and separately stated in the enrollment agreement. Any such items not required for the portion of the program attended must be included in the refund.

6. A student who withdraws for a reason unrelated to the student's academic status after the 75% completion mark and requests a grade at the time of withdrawal shall be given a grade of incomplete and permitted to re-enroll in the course or program during the 12-month period following the date student withdrew without payment of additional tuition for that portion of the course or program.

7. A full refund of all tuition and fees is due and refundable in each of the following cases:

- a. Enrollee is not accepted by the school.
- b. The course of instruction is discontinued by the school, and this prevents the student from completing the course.
- c. The student's enrollment was procured as a result of any misrepresentation in advertising, promotional materials of the school, or representations by the owner or representatives of the school.

*\*\*\* A full or partial refund may also be due in circumstances of program deficiencies or violations of federal / state educational regulations. The disbursement of refunds will be processed within 60 days after the effective date of termination or as required by local law.*

*(Note #1: Simplified, the refund is based on the precise number of scheduled class hours the student has paid for but not yet used. Once a student has attended 75% of the total scheduled class time no refund is due. Form PS-1040R provides the precise refund calculation in accordance with state regulation.)*

### **Military Service Clauses**

Any student that withdraws from the school as a result of military orders such as change of duty station, deployment, call to service, or other means in service to the United States Armed Forces may elect **ONE** of the following options for each program in which the student is enrolled.

1. A pro-rata refund of any tuition, fees, and other charges as per the standard refund policy.
2. A grade of "Incomplete" with the designation "Withdrawn – Military" and the right to re-enter the program no later than the first anniversary of the date that the student is discharged from active military service or relieved of the duties of their orders. Upon re-entry under this clause the student will only be charged for the unpaid balance of the original tuition.
3. The assignment of an appropriate final grade and credit only if the instructor determines that the student has satisfactorily completed 90% of the required coursework AND demonstrated sufficient mastery of the required course subject matter.

# **Program Title & Description**

## **-- Refrigeration, Air Conditioning & Heating (HVAC-r) --**

The HVAC-r program is a vocational fundamentals program designed to teach students the essential skills and knowledge needed to obtain the required certifications and gainful entry level employment in the HVAC-r industry. This program requires no prior knowledge of the trade to attend. Students will learn the science behind moving heat using thermodynamics and pressure temperature relationships. As well as develop a strong foundational knowledge of HVAC electrical systems, troubleshooting techniques, refrigerant handling, soft skills, and laws surrounding the industry.

### **Program Outline**

The program's total length consists of 100 hours as structured below; the time required to complete the program is dependent on the class schedule the student enrolls for. All class schedules consist of the same program structure, the only difference being the length of and number of class sessions. Available class schedules can be found on page 4 of this handbook.

<b>Subject</b> <i>(Material Covered)</i>	<b>Lecture (Hours)</b>	<b>Lab</b> <i>(Hours)</i>
HVAC Theory	06	02
Basic Electricity	06	10
Motors	04	04
Brazing	03	07
Recovery / Evacuation / Charging	12	12
Combustion Systems <i>(Gas Heat)</i>	05	04
Heat Pump Systems	05	04
Soft Skills	06	06
EPA 608 Exam Studies	04	00

### **Obtainable Careers**

HVAC Installer | HVAC Maintenance Technician | HVAC Service Technician |  
HVAC Counter Sales | HVAC System Controls | Refrigeration Technician |  
Facilities Maintenance | Test & Air Balance Technician | HVAC Warranty  
Technician

*(This list is not all inclusive and only offers insight into some of the career paths available upon completion of the program and passing the EPA 608 Certification Exam.)*

# **Synopsis of Subjects Covered**

(To include skills obtained)

## **HVAC Theory**

This section of the course covers the essential sciences behind HVAC system operations. Topics: Heat Transfer (Thermodynamics), Sensible & Latent Heat, Pressure & Temperature Relations, and The Refrigeration Cycle.

Pre-requisites: None

Lecture - 6 Hrs. Lab - 2 Hrs.

## **Basic Electricity**

An introduction to HVAC electrical systems, focusing on understanding electrical components and how they control the flow of power in a circuit. Topics: Defining Electricity, Ohm's Law, AC & DC Currents, Circuits, Magnetism, Transformers, Capacitors, Switches & Relays, Understanding Schematics, and Diagnostics.

Pre-requisites: HVAC Theory

Lecture - 6 Hrs. Lab - 10 Hrs.

## **Motors**

An in-depth look at how electric motors work, and the various types utilized in the HVAC industry. Topics: PSC Motors, ECMs, Variable Speed Motors, Hermetic Motors, Motor Drive Mechanisms, Motor Protections and Safeties, and Motor Diagnostics.

Pre-requisites: Basic Electricity

Lecture - 4 Hrs. Lab - 4 Hrs.

## **Brazing**

This section is primarily a hands-on dedicated time where students learn how to safely and correctly join metals for HVAC operation. Topics: Brazing Safety, Flaring & Swaging, Nitrogen Purging, Leak Detection Methods, Brazing Equipment, and Class Projects.

Pre-requisites: Motors

Lecture - 3 Hrs. Lab - 7 Hrs.

### **Recovery/Evacuation/Charging**

This time is dedicated to ensuring students understand proper refrigerant handling practices. Topics: Types of Refrigerants, Montreal Protocol & Clean Air Act, Recovery Equipment & Operation, Recovery Methods, Vacuum Pumps & Operation, Pressure / Temperature Charts, Metering Devices, Superheat & Subcooling, Blended Refrigerants & Fractionation, Refrigerant Charging and Diagnostics.

Pre-requisites: Brazing

Lecture - 12 Hrs. Lab - 12 Hrs.

### **Combustion Systems**

Students learn the hazards surrounding combustion-based systems and the importance of the features that keep those that use them safe. Topics: The "Fire" Triangle, Carbon Monoxide, Furnace Components & Safeties, Gas Furnace Sequence of Operations, Types of Furnaces, Furnace Efficiency 80% vs 90%, Furnace Diagnostics.

Pre-requisites: Recovery/Evacuation/Charging

Lecture - 5 Hrs. Lab - 4 Hrs.

### **Heat Pump Systems**

A hands-on introduction to heat pump systems covering their unique components and how they utilize the refrigeration cycle to heat a space. Topics: Heat Pump Operation, The Reversing Valve, Metering Devices & Check Valves, Heat Pump Wiring, Defrost Boards, Defrost Cycle.

Pre-requisites: Combustion Systems

Lecture - 5 Hrs. Lab - 4 Hrs.

### **Soft Skills**

This section focuses on the professional development of interpersonal communication skills and client education to increase tech productivity in the field. Topics: Building Rapport, Diagnostic Questioning, Avoiding Techspeak, Overcoming Objections, Presenting Findings, Closing the Deal.

Pre-requisites: Heat Pump Systems

Lecture - 6 Hrs. Lab - 6 Hrs.

### **EPA 608 Exam Studies**

Students receive guided and dedicated study time in preparation for their EPA 608 certification exam.

Pre-requisites: None

Lecture - 4 Hrs. Lab - 0 Hrs.

# **EPA 608 Technician Certification Training**

The EPA 608 Universal Technician Certification Exam will be proctored on the last scheduled day of class. Students may request to take the exam at a later date by appointment with instructor approval. The exam is taken online at the school campus through ESCO and proctored by campus instructors.

## **Objective**

To prepare individuals for the EPA 608 certification exam which upon passing all sections will grant them the certifications needed to work with and handle controlled refrigerants.

## **EPA Certificate**

Upon passing the EPA core, Type I (Small Appliances), Type II (High Pressure and Very High-Pressure Appliances), and Type III (Low Pressure Appliances) sections, students will earn the EPA Section 608 Universal Technician Certification.

The test contains four sections: Core, and sections I, II, and III. Each section contains twenty-five (25) multiple-choice questions. A technician MUST achieve a minimum passing score of 70 percent in each group/section in which they are to be certified. For example, a technician seeking Universal certification must achieve a minimum score of 70 percent, or 18 out of 25 correct, on each section of the test.

If a technician fails one or more of the sections, they may retake the failed section(s) without retaking the section(s) in which they earned a passing score. In the meantime, the technician will be certified in the Type for which they received a passing score. There is one exception; a technician MUST achieve a passing score on the Core plus any one other Type to receive any certification. There is no limit on the number of attempts a student can make to obtain their universal certification.

## **EPA Certification Exam Retake Costs**

The cost of the EPA 608 Certification course will be included in the tuition. The class includes one (1) EP A test voucher with an ESCO study guide that identifies important areas covered by the test. Each additional test (retesting) will cost \$45.00.

# **Graduation Requirements**

Students are required to meet all the following criteria to graduate from the program:

- Be in attendance for a minimum of 90% of scheduled class time. In accordance with the school's Attendance Policy.
- Maintain an 80% or higher exam score average. (*Midterm + Final Exam*)
- Satisfy all financial obligations to the school incurred during attendance.

## **Awarding of Diploma**

Each student, upon successful completion of the program, will receive a certificate of completion stating that they have completed 100 hours of classroom and laboratory study in Heating, Air Conditioning, and Refrigeration. Additionally, student records to include grades, transcripts, progress reports, and attendance will be retained by the school for a minimum of five (5) years.

## **Job Placement Assistance Policy**

The school is dedicated to assisting students obtain gainful employment after graduation. While we cannot guarantee employment, we assist students in their search in three ways. We host periodic job fairs at the campus allowing students the opportunity to meet hiring partners face to face. We host a job board on the school's website with active listings of our hiring partner's open positions that is accessible to our students 24/7. We also allow hiring partners to visit the students while they are in class to discuss opportunities upon graduation.

## **Grading System**

Students will be given a total of two (2) tests consisting of 50 multiple choice questions each listed as a midterm exam and a final exam. A passing grade will be mastery of no less than 80% of the subject matter on each exam. Students will have the opportunity to take each exam twice (*if needed*) to receive a passing grade. The average of these scores must meet 80% or higher for a student to graduate.

# **Attendance Policy**

The instructor will be responsible for calling roll and entering the student's name in the attendance record at the beginning of class. Additionally, the student will sign in on a secondary sign in sheet with the time of their arrival and sign out with the time of their departure. Any student that arrives after the scheduled class start time will be marked as "Tardy". If a student is marked tardy more than three (3) times within the duration of the course, they will be placed on academic probation. When a student is placed on academic probation a progress report will be issued indicating such status and its cause. If a student on academic probation is tardy, they will be marked as absent for that day with any subsequent tardiness resulting in termination from the program.

***Note: If a student misses more than 10% of scheduled class time due to either absence or tardiness they will be terminated from the program.***

## **"Leave of Absence – Excused Absences"**

Any student that becomes ill or has a sickness or death in the family will be given the opportunity to request a "Leave of Absence" and re-join the next scheduled class cycle (*Pending available space*). Any student that has been granted a leave of absence or otherwise experiences an authorized break in attendance and is "Paid in Full" with the school's financial record will be granted priority status and awarded the first open space in the next scheduled class cycle. Per state regulation a student's leave of absence may not exceed 30 calendar days. School attendance records will clearly define the dates of the leave of absence, and a written statement showing the reason for the absence will be signed by both the student and director and stored in the student's file.

## **"Make-up Policy"**

If a student misses more than 10 hours of scheduled class time a student may request make-up time not to exceed five (5) hours per state regulations (*Excluding time missed for scheduled school holidays or excused absences*). The make-up time is to be coordinated between the student and their instructor to cover the material missed by the student. This can be accomplished by arriving to class early or by staying after the scheduled class time. All make-up sessions must be approved by the director or lead instructor.

# **Student Conduct Policies**

Rules of student conduct, recorded at the end of this handbook, will be signed by the student acknowledging the student has read, understood, and agrees to abide by them. Violation of the rules listed in the code of conduct have differing consequences based on the violation and its severity, consequences range from academic probation to immediate termination from the program. Any conduct violations while on academic probation are grounds for termination from the program.

## **Policy Concerning Satisfactory Attendance**

Students are expected to be in attendance, participatory, and attentive during classroom and lab sessions. If an instructor deems that a student is failing to pay attention, participate, or is disruptive in class an “Unsatisfactory Progress Report” will be issued and entered into the student’s file. A second such report will result in the student being placed on academic probation, with any subsequent such reports resulting in the student being terminated from the program.

## **Policy Concerning Tuition Non-Payment**

Students are expected to fulfill their financial obligation to the school as agreed upon in the enrollment agreement. Any student that is in default on their tuition payments by two (2) scheduled payments will be placed on academic probation and must communicate a plan to get caught up to the school. Any student that is in default by three (3) or more payments is subject to be terminated from the program.

*Note: This policy only pertains to those enrolled through the school’s in-house payment plans and/or third-party lenders partnered with the school. This does NOT apply to those receiving financial aid through government programs.*

## **Re-Entrance / Re-Admission Policy**

Any student that has been terminated from the program for any reason can request an interview with the campus director to discuss their suitability for re-admission to the program. Upon approval for re-admission by the campus director, the student will be eligible to join the next available class cycle to complete the program.



### **Policy Concerning School Test**

Any student that fails to maintain an 80% or higher test score average after having exhausted the number of allowed attempts for each exam will be terminated from the program. Any student that is absent on the day that an exam is to be taken will have the opportunity to take the exam during the next scheduled class session.

### **Student Progress Reports**

Progress reports will be completed by the instructor after each exam noting the individual's testing and participation in class. Instructors will also complete progress reports for students that violate the school's attendance or conduct policies, noting the violation and outcome to include academic probation or requesting termination from the program. These reports will be reviewed by the campus director and kept by the school in the student's record.

### **Policy for the Resolution of Student Grievances**

Any student who has grievances or concerns regarding the school, staff, or other students may at any time meet with the campus director to seek a resolution. The campus director will address any grievances or concerns brought forth by a student in a swift and timely manner in accordance with the student handbook policies and code of conduct. All concerns or grievances presented to the campus director are to be kept in confidence unless specifically required otherwise to resolve.

**To request a meeting with the director call or text 214-393-5499 or email [director@techzonehvacr.com](mailto:director@techzonehvacr.com) with the subject line "Student Grievance".**

Any unresolved grievances which cannot be addressed by the campus director may be delivered in writing to:

**Texas Workforce Commission  
Career Schools and Colleges, Room 226T  
101 East 15<sup>th</sup> Street  
Austin, Texas 78778-0001**

**Telephone: 512-933-3100**

## **Student Code of Conduct - Rules**

1. No guns, knives, alcohol, or other illegal / illicit substances are allowed on school property.
2. Violence and harassment, either physical or verbal, will not be tolerated. To include vulgar or discriminatory remarks or behavior.
3. All students must maintain professional behavior while on school property. To include: Coming to class clear headed, and being respectful to their classmates, school faculty, and school property.
4. Students are expected to show up to class on time and be attentive while in class, to include actively participating in discussions and activities.
5. Theft of any kind on school property will result in immediate termination from the program.
6. Cheating during exams or exercises will not be tolerated.
7. Students are expected to clean up after themselves and maintain an orderly workspace in both the classroom and lab environments.
8. Students are required to follow all instructions given by their instructor, to include safety protocols and classroom / lab direction.
9. Mistreatment of tools and equipment in this industry is dangerous, therefore "Horseplay" on school grounds is not allowed.
10. Any video or audio recording to include photography must be approved by the instructor and may only be for personal use and study.
11. Disruptive behavior such as phone calls / texting, side conversations, sleeping, and other such activities are not tolerated during class and lab sessions and may result in academic probation or termination from the program.
12. Students are not allowed to enter the lab areas without an instructor present or without express permission to do so.

### **Dress Code**

Violations of the dress code will result in the student not being allowed to participate in labs or being sent home to change.

- Open toe and "Crock" style shoes are not allowed in lab areas.
- Long pants must be worn to enter the lab areas.
- Loose fitting jackets and jewelry are not allowed in lab areas.
- Long hair must be tied back securely while in lab areas.
- Sleeveless shirts are not allowed in lab areas.
- Clothing with vulgar or obscene designs are not allowed.

Student Signature: \_\_\_\_\_

Date: \_\_\_\_\_