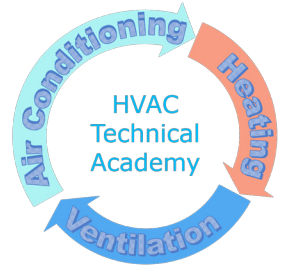




HVAC Technical Academy



Tools for a Successful HVAC Career



HVAC

Technical Academy

Heating * Ventilation * Air Conditioning

Today belongs to YOU. Today is the day to create YOUR future.

Today is dedicated to building the foundation of success, YOUR success.

Not only are we going to supply the tools for a career in HVAC, but you are also going to learn a great deal about who you are, who you want to be, and who you WILL become.

Before shaking your head and holding your breath in protest, recognize that without direction, you lose control AND lose the ability to choose your path.

Throughout our six weeks together, we will bring YOUR fundamental HVAC technician skills to a level of **immediate** value to an employer. To do this, you are asked to attend all class sessions, take part in all activities (theoretical and practical), and make the choice to commit to your future... today... right now.



Classes are modeled on standards encountered in the workplace as we bring **ready-to-work** graduates into an industry needing good technicians.

From the military veteran returning to the community, to the justice-involved transitioning back into society, and everyone in-between, our programs may be the most important first step you can take along your new journey.

From the team at HVACTA, welcome to TODAY!

Now is the time to choose what tomorrow **WILL** bring!

Danny Huffman

Danny Huffman, MA, CEIP, CPRW, CPCC

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Parties interested in partnering to create a better tomorrow today, contact the publisher at Info@hvacta.com or call directly to 407.878.0474.

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Welcome to Today, Welcome to YOUR Future

HVAC Technical Academy is committed to student and community development.

Graduates gain the fundamental knowledge to begin their HVAC journey and more along the way. Our team is made up of seasoned and licensed professionals in the HVAC field still working in the industry.

Supporting our HVAC team of professionals, we provide qualified career management guidance to ensure graduates have what it takes to succeed personally and professionally. From day one of class, to graduation and beyond, our supporting staff remains by your side and ready to assist.

Directly involved with the HVAC industry and advisory committees throughout Central Florida, we know programs in the region are all different. Be it in affordability, duration, curriculum, or student expectations, no two places are the same. Employers know this too, that is why our up-to-date activities and curriculum is reviewed quarterly to better match employer new hire wants and expectations.

Our core values and beliefs are straightforward: Mentor and provide the best for each student, take care of our community, and always do the right thing. Pretty simple formula when you think about it, but a formula few follow.

If you are looking for an easy six weeks where learning and progression are not expected, **look elsewhere**. If you are seeking partnership with a program which will challenge, progress, and prepare you for personal and professional success, we may be an ideal match.

Keeping it real, **HVAC Technical Academy** expects nothing but the best from you. The power to choose is totally in your hands, don't take your individual power lightly. Part of our daily curriculum is dedicated to critical thinking, conflict resolution, visualization, career management, onboarding, professional behavior and expectations, emotional intelligence, handling rejection, and the power of choice, YOUR CHOICE.



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Today is *THE* Day

We all have different reasons for being here at this stage in our lives.

Fact: Yesterday is not part of the equation defining who you are today... what you do NOW defines who you are. For those allowing the past to determine (or sabotage) your future, time for a reboot... the future belongs to you, and you DO have the power to choose your path.

Insight: How have you used events in the past to sabotage your future?

- _____
- _____
- _____

As mentioned, during our time together you will be asked to reflect on your life, ambitions, and commitment as well as taking a solid look at potential **employer** and **customer perspectives**.

Truth is, learning how to be a great HVAC technician is not just about fixing air conditioners, it's about attitude, sense of self-worth, and how you react when faced with rejection.

Without hesitation, let's get this party started!



Insight: In what ways do **attitude**, **sense of self-worth**, and how you **react when faced with rejection** influence personal and professional success in a positive way?

- Here's how **attitude** can influence in a positive way: _____
- _____
- Here's how sense of **self-worth** can influence in a positive way: _____
- _____
- Here's how one can react (in a positive way) when faced with rejection: _____
- _____

One thing is certain: If nothing changes, NOTHING changes.

Success is a choice, **your** choice.

Soft Skills / Listening / Ethics



How many times have you heard the term “*soft skills*” and wonder why the big deal, after all, if someone knows how to do their job (*hard skills*) that should be enough.

Bit of reality, soft skills are as important as the set of hard skills required to get the job done. To be clear, soft skills include things like written and oral communication, good judgment, how you relate to other people, how you deal with conflict, and even ethical conduct.

By the way, body language and professional courtesy/respect are in this mix too!

Insight: Think about it in the eyes and ears of a customer, how can body language affect the experience?

- In a positive way: _____
- _____
- In a negative way: _____
- _____

Insight: Listening is important too, what are two clues letting the other person know he or she is being listened to:

- _____
- _____
- _____

Listening means paying full attention to the customer, employer, and support staff without judgment.

Listening is more than hearing what the other person is saying, it means understanding what’s going on in the other persons mind and how he or she may feel.

Tips for being an effective listener:

- Giving feedback when the time is right
- Giving full attention to the other person
- NOT checking your phone during discussions
- Asking questions in a respectful, non-threatening or judgmental way
- Gaining direction by understanding what the other person is talking about
- Not interrupting and making sure the other person is finished before responding
- Display proper nonverbal communication such as smiling, keeping good eye contact, allowing for personal space, and letting the other person know you are interested

No doubt we've all felt like the other person is not listening to you. The results of **feeling** ignored is never a positive one.

Listening is part of your soft skill set as well as personal and professional **ethics**.

Insight: In your words, how would you define ethics?

- Ethics, to me means: _____
- _____
- Here's an example where I showed a **high** degree of ethics: _____
- _____
- _____

Defined formally, ethics is a moral principal measured by action (or inaction).



If you are wondering how action (or inaction) measures ethics, think about everyday life and things you come across. For those with a high ethical code, **doing the right thing** plays center stage.

As an HVAC professional, **doing the right thing means not lying, deceiving, or intentionally misdiagnosing or causing damage.**

Insight: How you represent measures your ethical stand... which way are you standing?

- When it comes to ethical behavior, I stand: _____
- _____
- Here's an example where I showed a high degree of ethics: _____
- _____
- _____



Choice is NOT a Four-Letter Word

When it comes to showing up and performing to your fullest, it is all up to you... you have the choice to create and follow any path YOU choose.

Recognizing with every choice comes a consequence, there will be no crying or finger-pointing as you, and only you, control your fate... understood? I thought so.

Insight: Your future is a matter of choice. With choice comes commitment. Are you committed to do what it takes and give up things/actions pushing you off the path?

- I am committed to do what it takes, and this means: _____
- _____
- I am committed to **not** use the following as an excuse to fall off my path: _____
- _____

Knowing we are all on the same page, it's time to begin our formal HVAC technical training...

Today Begins NOW

Throughout our first week (and beyond) we will review safety applications. Thing is, as an HVAC technician, **being safe could be the difference between life and death**. In addition to safety, initial topics of interest include energy/matter, gasses, basic refrigeration systems, nomenclature, and cooling comfort.

Insight: Though most likely never seen (yet), what do you think the term “nomenclature” means?

- _____
- _____

Not to worry, by the time of graduation, you will know a great deal about *nomenclature*.

Any time safety is mentioned in the HVAC industry, OSHA and EPA sets the standard. Though we dedicate a great deal of time to review EPA Certification in our final week, there’s no time like now for an EPA introduction.

The EPA requires all HVAC technicians using certain types of refrigerants be certified. This means anyone installing, maintaining, servicing, or repairing equipment and those who may have the opportunity to release refrigerants into the atmosphere... this means you.



Insight: What’s the big deal when it comes to using and/or releasing refrigerants into the atmosphere?

- _____
- _____

Double Check:

True or false: soft skills are as important as the set of hard skills required to get the job done.

Putting EPA on the backburner, let’s talk safety by defining potential hazards and personal protective equipment (PPE).

Gotta know: As an HVAC technician, you will face potential hazards just about every day.

There are two basic types of potential hazards:

- Health hazards: This includes overexposure to harmful chemicals, dust, and/or radiation.
- Physical hazards: Includes high heat, electrical connections, and/or sharp edges.

To lessen the risk for yourself and those around you, personal protective equipment is worn to decrease exposure to health **and** physical hazards. Most examples of PPE are straight forward, such as gloves, hard hats, and goggles. Additional protective items also include:

- Eye protection
- Head protection
- Hearing protection
- Protective clothing
- Respiratory protection

Double Check:

Tips for being an effective listener include

- Not giving feedback or ignoring the other person
- Not interrupting
- Being disrespectful if the speaker disagrees with you
- Checking your phone for messages while the other person is speaking

Hazards defined

In a nutshell, a hazard is a potential for harm.

According to OSHA, a hazard may be linked with a condition or activity that, if left uncontrolled, can result in an injury or illness. For the safety of all, an HVAC technician must be able to identify, eliminate, or minimize hazards.

In the HVAC industry, **safety is an ongoing process**. In other words, don't let your guard down. A regular hazard review needs to be done on arrival. Upon arrival you should find out the location of emergency exits, ac equipment, and if there are any dangerous chemicals or materials in the area.



Video / Reflection

Worksite Safety, part 1: <https://www.youtube.com/watch?v=XRXYVIdI6RU>

- Of the potential hazards presented in the video, which potential hazard are you most concerned with and why?

Specific hazards include:

- **Electrical Hazards:** Electricity may cause shock, burns, explosions, and electrocution. A well designed and enforced lockout/tagout is critical for safety. To clarify, an electrical shock happens when the body becomes a part of the circuit.
- **Fire Hazards:** Be careful when working near things that may ignite, such as burners and torches.
- **Temperature Hazards:** Technicians typically don't work in an air-controlled environment and may be exposed to temperature extremes. When working outdoors, wear sunscreen and suitable clothing for UV ray protection.

Working in hot temperatures can cause you to overheat. Signs of heat-related illness include an increased body temperature, headache, nausea, weakness, dizziness, fainting, and confusion.

Attics and rooftops pose specific risks, technicians MUST be prepared within these potentially hazardous areas.

**Double Check:**

The following is an example of a health hazard:

- High heat
- Sharp edges
- Electrical connections
- Overexposure to harmful chemicals

- **Refrigerant Cylinder Safety:** Refrigerant cylinders contain gas under pressure, and you should NEVER heat a refrigerant cylinder with a flame.
- **Chemical Risks:** It is your responsibility to know about the chemicals being used. Never use carbon tetrachloride as a cleaning agent as it is toxic when inhaled or gets on the skin.

While on the topic, oil and refrigerant become contaminated during a motor burnout and contain acid... this is a situation you do not want to be part of either.

- **Breathing Risks:** No matter where you are, harmful substances such as dust, adhesives, and solvents or even asbestos may be hanging around.

Safe work practices, including ladder safety

HVAC technicians move around and carry lots of things of various sizes, shape, and weight.

For anyone who has hurt their back or pulled a muscle, you know the discomfort it causes, as a result consider there is a wrong way and right way to lift things.

- **Lifting:** When lifting heavy or large objects, use tools than can help you in the process. A hand truck, portable dolly, or pry bar can help by simplifying movement. Under no circumstance, do not try to lift heavy equipment by yourself. When lifting, use your legs, not your back and keep your back straight during lifting.



Let's talk ladders... A preventable hazard that can cause considerable physical discomfort deals with ladders. For that reason, time to review ladder safety tips.

Gotta know: Proper selection, use, and care of ladders are an important part of job safety.:

Double Check:

True or false: The EPA only requires senior-level HVAC technicians using certain types of refrigerants be certified. (truth is, all HVAC technicians need to be certified)

Foremost, **NEVER** use a damaged or broken ladder and **NEVER** place a ladder on top of scaffolding. Just in case you forgot, **SAFETY is YOUR** responsibility.

Here's a few ladder guidelines:

Upon arrival:

- Know your environment and always use common sense.
- Do not place a ladder too near or against a live electrical hazard.
- Set up ladders up on a firm, level surface. Make sure both feet of the ladder are secure.
- Do not set up ladders in passageways, doorways, driveways, or other locations where they can be struck or bumped.
- Tie off or secure ladders to prevent movement.
- Make sure the base of the ladder is at a distance from the wall to $\frac{1}{4}$ of the working length of the ladder.



When climbing:

- Stay centered while on the ladder.
- The “*three points of contact*” rule should be used, as it lessens the chances of slippage or falling. In other words, climb facing the ladder with two hands and one foot, or two feet and one hand in contact with the ladder.
- Never straddle the space between a ladder and another object.
- Do not use ladders horizontally as scaffold platforms, runways, or other service for which they are not designed.

Upon completion:

- Ladders moved on the top or side of vehicles should be supported and secured in proper racks to withstand braking and bumps.
- Do not pile things on top of ladders.

Before going on, let’s address **hand and power tools** in relation to safety.

As an HVAC technician you will be working with hand and power tools... so keep close attention:

- Always read the manufacturer’s instructions before using a tool.
- Use the tools as it is intended, not for any other purpose.
- Keep a close eye for wear and tear, replacing or repairing as required.
- Make certain tools are secure when working on ladders or scaffolding.
- Always push sharp tools away from you, not toward you.
- When working with hand tools, always wear goggles and use gloves if necessary.

