



NEXTech  
ACADEMY®

## ONLINE TECHNICAL TRAINING CURRICULUM GUIDE

Shaping the future of our industry through flexible online training



NexTech Academy curriculum integrates Nexstar Network's best practices with step-by-step technical training and will help an employee with little trade experience become a confident and competent technician.

**Learn more at [NexTechAcademy.com](https://NexTechAcademy.com)**

## Who is Nexstar?



As an affiliation of independent service contractors, we exist to help our members excel in their business endeavors by sharing best practices and expertise. Our goal, as a group, is to leverage the knowledge and experience of the entire membership to “raise the bar” — and become recognized within our individual communities for delivering outstanding professional service.

Nexstar provides valuable marketing and sales tools to members, and continues research and investment to develop new educational programs like the Nexstar Service System.

We take pride in having the most comprehensive resource materials, training programs and services in the industry. Our members benefit from best practices and training that reflects our founding motto: Success Through Education and Sharing.

Your individual success is our purpose as well as our promise. This makes it a win — for your business, your customers and your membership in Nexstar.

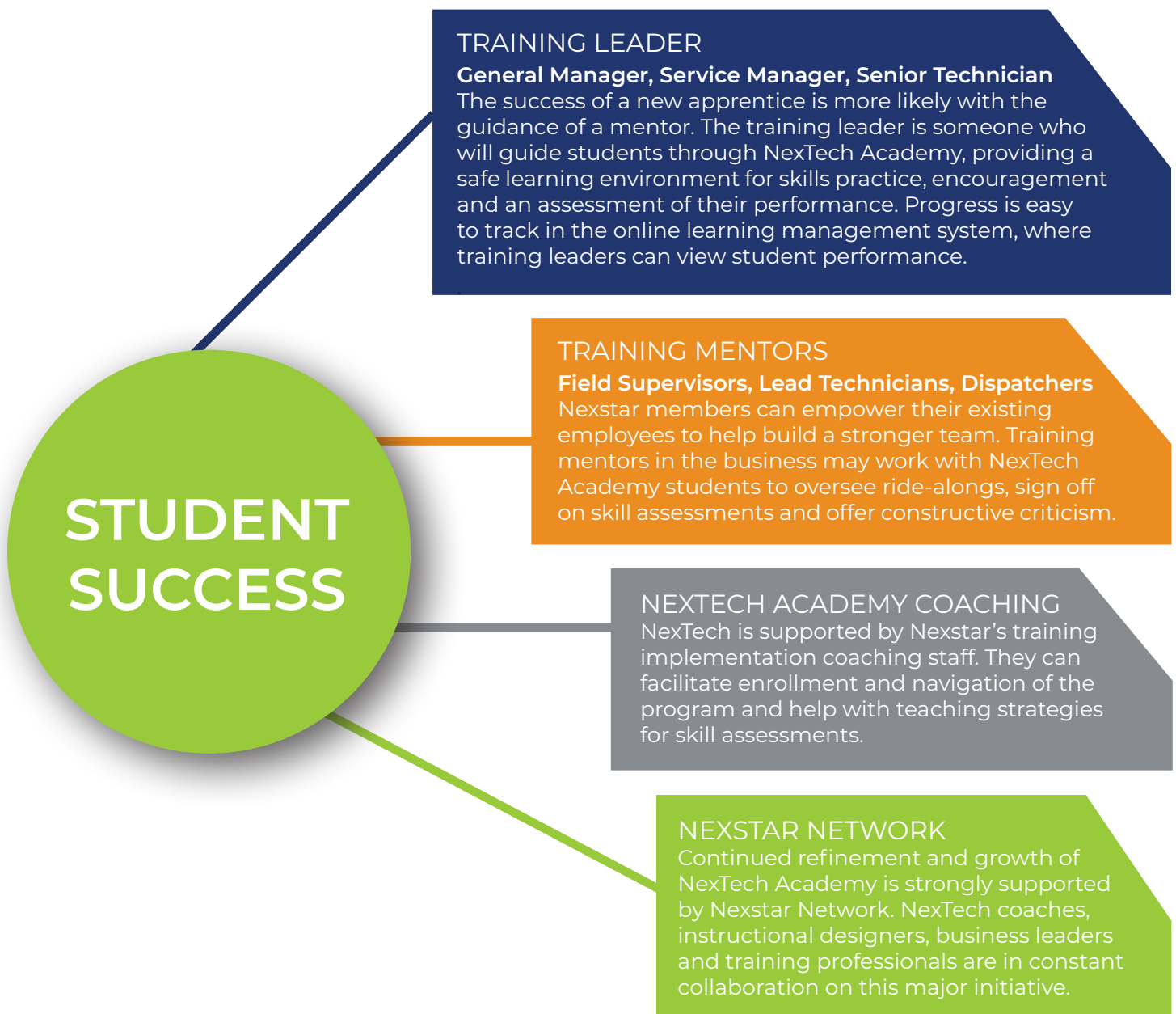
# Holistic Learning Approach

Support is essential to student success. Explore how different roles within the business will encourage learning retention.

## STUDENTS SUCCESS

Successful NexTech students are curious, open and excited to learn. NexTech provides them with a flexible learning approach: combining reading, interactive exercises, quizzes, videos and skills practice demonstrate in the curriculum.

The pace of the program is determined by the amount of time that a student can devote to it during their work week. Additionally, students will be able at their own pace, meaning that some will be quickly through the program than others. The training is progressive, students will be able to run calls at some point prior to the completion of the program.



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# Knowledge & Pacing

NexTech Academy is not a “fast track to a truck” program. Our curriculum is intentional and prepares industry professionals. Most apprenticeship programs work on a 4-5-year model. NexTech Academy is designed to take a fraction of that time. We estimate that completion of the program will take 12-18 months.

NexTech Academy Scope and Sequence	
Months 1-4	By the end of Level 1, the student will be an <b>educated helper</b> , knowledgeable in tools, safety and materials.
Months 5-9	By the end of Level 2, the student will be an <b>advanced helper</b> to lead technicians. Depending on ability and comprehension, they may run basic maintenance calls.
Months 10-14	By the end of Level 3, the student will have <b>experienced a variety of service calls</b> expanding their knowledge base.
Months 14-18	By the end of Level 4, the student will have the knowledge, confidence and experience to troubleshoot and repair more advanced systems and, with their Nexstar training, they will be an <b>outstanding ambassador for your company</b> .

## The Commitment

NexTech Academy recommends a minimum of one session per week and a maximum of two sessions per week. Each level is broken down into courses and each course consists of learning sessions. Session times vary, and hands-on skill assessments and reflection questions balance the time spent in front of the computer with in-person practice.

As the program progresses into the more technical / skill-based sections, Training Mentors and Training Leaders must closely monitor the student's comprehension of the skills being introduced. An experienced technician will have the ability to see if the student understands or does not understand the skill. Progression of the student from supervised to unsupervised skill practice is at the sole discretion of the Training Mentor and/or Training Leader.

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## HVAC Cooling Start



## Course Order and Descriptions

Level 1: HVAC Fundamentals	
The History of HVAC	Have you ever wondered how HVAC worked 100 years ago? How about 500? This lesson covers the principles of heating, ventilation, air conditioning and refrigeration.
The Modern Day HVAC Industry	Understand the types of equipment you will be working on, along with the social skills you will need to build upon for your future in the industry.
Driving Safety	This is review on safe and defensive driving skills. You still need to have a valid license to operate a company's vehicle.
Electrical Safety	Electrical safety knowledge can be the difference between life and death for you, your coworkers or the homeowners you serve.
Personal Safety	You'll learn the basics of personal protective equipment (PPE).
Safety Awareness	You'll learn how to train your brain and your eyes to identify unsafe conditions. This course also covers regulations and safety standards.
Workspace Safety	You will spend time focusing on workplace procedures that will keep you safe from fire, falls, chemicals and injuring your hands and feet.
Mathematics Used In The Field	Being able to perform accurate measurements and calculations will save you time and effort and will help you complete tasks correctly and efficiently.
Electrical Conductors	This content will help you understand the different types of wire and what they do when you are in homes.
Conductor Terminations	Termination points are the weakest link in any electrical circuit. Making quality terminations will ensure this link doesn't fail prematurely.
Electricity Basics	As a tradesperson, you'll need to have a basic understanding of electricity: both to perform job-related tasks and to stay safe.
Types of Electrical Circuits	Get a high-level overview of electrical circuits, how they work and what happens when there is a short circuit.
Understanding Electrical Measurements	Discover what multimeters are, how to test AC and DC systems, how to test amp draw on a circuit and how to test continuity in a system or component.
Volts, Amps, Watts and Ohms	Get to know the common concepts of electricity.
Common Hand Tools	We'll introduce cutting and shaping tools, measurement and layout tools, tightening and loosening tools.
Common Measurement Tools	Almost everyone on earth has used a measuring tape or ruler at one point or another. Although they are common, they have many features that make them invaluable to a tradesperson.
Common Power Tools	You will become familiar with common power tools like drills, saws and others you will need to do your job.
Drawings and Blueprint Reading	You will be introduced to construction drawings and blueprints and will learn what you want to look at in terms of your job's function.
How To Read A Circuit Diagram	Understanding this will help you when installing equipment in a home.
Introduction To Residential Equipment	Introduces different types of furnaces, air handlers, heat pumps, boilers, air conditioners, and ductless systems you will run into.

# HVAC Cooling Start



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## Course Order and Descriptions

Switches, Breakers and Disconnects	In this lesson, you will be introduced to the most common switches, breakers, and disconnects used in the HVAC Industry.
Transformers and Their Role In HVAC Systems	Learn about the sequence of operation for a standard oil-fired furnace and discover how to diagnose one in the field.
HVAC Control Devices	You will understand what controls all the different components of the system, how to identify them, and know what they do.
Thermostat and Temperature Controls	Familiarize yourself with the different types of thermostats on the market and the best practices for installing and setting up a new thermostat.
Motors and Capacitors	You will learn about PSC and ECM blower motors and essential testing procedures. You will also learn about capacitors, what they are, and how to test and replace these as well.
Basic Duct Design	You will learn about the benefits of the different types of duct systems and how they are incorporated. You will learn about the basics of return air sizing on a system in the field.
Fans and Duct Materials	Learn about various blower styles and configurations, different fan designs and applications, common duct materials and fittings and how to properly clean a blower assembly,
Your Personal Health and Well Being	Examine your current behaviors that impact your health, as well as behaviors you might want to consider to improve your well-being.
Cooling Systems Overview	You will learn about the main system components that make up the cooling and refrigeration system.
Refrigeration Tools and Measurements	You will learn how to use temperature probes, manifold gauges, and psychrometer.
Checking the Refrigerant Charge	Learn how to get specific readings so you can adequately identify if a system has a correct refrigerant charge.
Diagnosing the Refrigerant Charge	By understanding the check and charge process and how to check superheat and subcooling, you will start to understand what makes up an adequately charged system.
Your Daily Habits	There are certain daily habits and mindsets that will greatly help you grow as a residential service technician.
HVAC Level 1 Test	Successfully completing this test will grant you access into the next level.
Level 2: Basic Skills	
Introduction to Heat, Combustion & Furnace Types	You will learn about the fundamentals of heat, safety in cold weather, complete and incomplete combustion, the types of gas furnaces you will encounter, and how to test for carbon monoxide in your customer's home.
Introduction to Furnace Safety Controls	You will learn about roll-out switches, limit switches, pressure switches, and flame sensing devices.
Ignition Systems	This lesson covers spark ignitors, hot surface ignitors, flame sensing devices and how to test and replace them.
Induced Draft Motor Assembly	Learn what induced draft motors do, why they are essential, and how to properly inspect them for proper operation.
Gas Piping, Gas Valves and Burners	You will learn about the proper methods of joining gas piping and checking for gas leaks. You will also learn about gas regulators.

## Course Order and Descriptions

Introduction to Heat Exchangers	Gain understanding on how heat exchangers work, how they are constructed and what makes them deteriorate.
Venting Heating Systems	We will cover the different types of venting systems you will run across and the materials used for these venting systems.
Oil Heating	Learn about the main system components, the sequence of operation, and you will learn the differences between these compared to gas-fired heating equipment.
Combustion Air	Discover best practices on how to appropriately size combustion air for a mechanical room, and for a condensing furnace or boiler system.
Your Attitude	You are in control of your attitude and the choices you make. Awareness of your choices will help you have more control of your circumstances.
Maintenance Accessories	Learn about some of the different accessories available to the homeowner that you can provide for them during an annual maintenance visit,
Heating System Maintenance	Learn the standard sequence of operation of most modern-day gas furnaces, and how it eventually will apply to your troubleshooting skills.
Refrigeration System Maintenance	You will learn the importance of maintenance on air conditioning systems, the benefits of clean coils, and airflow.
Working With People	Knowing and understanding what makes people tick will increase your ability to relate to customers and provide a better service experience.
Communication	Focus on how important non-verbal communication is on the job. You will also practice how to be a clear and effective communicator.
Indoor Air Quality	Learning about indoor air quality helps your customer's health and overall safety.
Sheet Metal Duct Systems	Learn how to join sheet metal ductwork, properly suspend and support sheet metal, and methods of proper ways to insulate sheet metal ductwork
Flexible Duct and Fiberglass Duct Systems	Learn how to correctly fabricate, install, and repair flexible and fiberglass duct systems
Basic Zoning Systems	We will discuss the major components of a zoning system, what they do, and how to perform basic maintenance on zoning systems.
Evaporative Coolers	You will learn about the different types of evaporative coolers and the various methods of installation.
Goal Setting	Big goals aren't impossible, you just need to approach them the right way. This course focuses on how to set measurable goals.
The Big Picture	You will be introduced to the four key roles of a technician and you will get an overview of what it means to work for an ethical company.
HVAC Level 2 Test	Successfully completing this test will grant you access into the next level.
<b>Level 3: Intermediate Skills</b>	
An Introduction To The Nexstar Service System	You will be introduced to the six steps of the Service System and you will complete reflection questions that will enhance your learning and better prepare you to work in the field with homeowners.
Service System Preparation	You will focus on the behavior needed to minimize callbacks and to provide exceptional service.



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## Course Order and Descriptions

Basic Copper Piping Practices	You will be learning the basics of working with copper, including how to identify the different types of copper, how to properly cut, bend, and how to join copper fittings together.
Brazing and Soldering	Learn the industry best practices of soft soldering and brazing.
Recovery, Pressure, Testing and Evacuation	You will learn how to successfully recover, pressure test, and evacuate a system in the field.
Focus On The Greet Step	The lesson dives deep on creating a great first impression.
Air Conditioning System Installation Best Practices	You will learn how to install a lineset properly and how to support it properly, and we will also show you the best practices of installing the outdoor condensing unit and the indoor evaporator coil.
Focus On The Explore Step	You will gain insight into the importance of keeping your eyes and ears open to what the customer truly wants and needs. Asking questions is key.
Design Processes and Evaluations	By understanding what comfort advisors in your company go through, you will be able to gain a better understanding of what is involved in the design process.
Duct Sizing and Duct Modifications	Learn more advanced concepts of duct design, friction loss, and how to use a duct calculator (also known as a duct slide rule or ductulator).
Condenser Evaporator Coil Replacement and Repair	We will guide you on a step by step process of how this is done, along with showing you how to repair a damaged coil from a screw puncture.
Focus On The Present Step	Explaining your solution and options in the customer's language will inspire their confidence in you.
Vent Piping Design and Troubleshooting	Learn how to size a common venting system in a residential home.
Focus On The Execute Step	You will focus on all of the things you can do to shine as a craftsman and demonstrate your respect for the customer and their home.
Zone System Design and Installation	We will discuss dampers, bypass dampers, zone control panels, and troubleshooting of these devices along with proper start-up and installation procedures for a zoning system.
Alternative Heating and Cooling Systems	Learn about alternative heating sources, solar systems, geothermal systems, water source heat pumps, wood burning heating equipment, along with Radiant Heating and Cooling Systems.
Focus On The Wrap Up Step	You will focus on how to making sure the customer is satisfied with the work done, following up after the call and critiquing your performance.
What's It Like To Work In HVAC Installation?	Knowing what they do differently than you will give you greater understanding to how your whole company operates.
HVAC Level 3 Test	Successfully completing this test will grant you access into the next level.
Level 4: Advanced Skills and Customer Interactions	
Relays, Sequencers and Solenoids	Learn how to properly troubleshoot the different types of relays, sequencers and solenoid valves on operating equipment in the field
Service Partner Plans and System Checks	You will learn how to introduce and explain service partner plans and system checks to homeowners.

## Course Order and Descriptions

Troubleshooting Control Boards	Learn the most common methods of troubleshooting control boards.
Dealing With Pushbacks	Learn about being proactive or reactive in responding to objections.
Thermostat and Low Voltage Short Troubleshooting	Learn how to accurately troubleshoot a thermostat and be able to locate a short in a thermostat wire, and we will show you different methods on how to run a new thermostat wire.
Challenging Customer Situations	This course focuses on interesting and challenging situations you may come across in the field.
Troubleshooting Blower Motors	You will learn the basics of troubleshooting the different types of blower motors and how to properly replace them.
Troubleshooting Heating Safety Controls	Review how safety controls operate, and then we will show you how to diagnose these components and replace them in the field.
Induced Draft Motor Troubleshooting and Replacement	You will learn about the induced draft motor, how it works, why it is necessary, and how to properly troubleshoot.
Troubleshooting Igniters and Flame Rectification	You will learn about the different types of hot surface igniters, how they should operate, and how to troubleshoot.
Troubleshooting Gas Valves	We will cover troubleshooting gas valves, smart valves and gas piping issues. You will also learn how to replace a gas valve and installing an LP Conversion Kit.
Heating Exchanger Inspection and Replacement	Learn the best practices on how to troubleshoot a heat exchanger, along with a step-by-step process of how to correctly replace a primary and secondary heat exchanger in a condensing furnace.
Maximizing Efficiency: Help On The Job	You will spend time reviewing timecards, your summary of finding sheet and your personal resources, such as the call center and your dispatcher.
Troubleshooting Electric Heating Elements	Understanding how they work, the sequence of operations, and how to troubleshoot and replace will give you a skill set that will set you apart from other technicians
Troubleshooting Zoning Systems	You will learn how to properly diagnose the system so you know which component has failed and why
Build Your Future	You will review some key customer service concepts taught in NexTech Academy and provide you with ideas on how you can keep your learning going and build mentoring relationships with your colleagues.
Troubleshooting Oil Heating Systems	Learn about the most common problems associated with oil furnaces and how to troubleshoot and fix them.
Troubleshooting Condenser Fan Motors	You will learn the different troubleshooting methods for both PSC and ECM type condenser fan motors. We will then guide you on how to properly replace these motors on equipment
Commissioning Techniques	One of the biggest mis-diagnosed problems involving air conditioning systems is the refrigerant charge. You will be able to identify whether it is an airflow issue, a restriction, or a charging issue.

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## Course Order and Descriptions

Leak Detection Methods	You will be learning the different methods of finding leaks in residential air conditioning systems, common leak locations, how to spot these leaks, and how to properly replace a schrader core and cap on an air conditioner.
Diagnosing Compressors	You will learn the industry's best practices of diagnosing the most common compressor problems. You will also gain a better understanding of what the interpretations mean with your meter.
Replacing Compressors	You will learn the process of replacing a compressor.
Advanced Metering Device Diagnosis and Repair	Understanding the difference between airflow problems and faulty metering devices in the field are paramount to being able to diagnose a refrigerant circuit correctly and efficiently.
HVAC Level 4 Test	Successfully completing this test will grant you graduation from NexTech Academy!



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“ NexTech Academy combines a mixture of media formats to keep the technicians engaged and challenged. As a training assistant, I have found that the NexTech Academy program allows me to track the progress of my participants at a glance and offers me insight as to how to best serve them to learn their trade. I am excited to see how the curriculum advances the skills of my technicians and improves the quality of our business. ”

Scott Thelen, Service Manager  
Pippin Brothers Inc.

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## HVAC Heating Start



## Course Order and Descriptions

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The History of HVAC	Have you ever wondered how HVAC worked 100 years ago? How about 500? This lesson covers the principles of heating, ventilation, air conditioning and refrigeration.
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Personal Safety	You'll learn the basics of personal protective equipment (PPE).
Safety Awareness	You'll learn how to train your brain and your eyes to identify unsafe conditions. This course also covers regulations and safety standards.
Workspace Safety	You will spend time focusing on workplace procedures that will keep you safe from fire, falls, chemicals and injuring your hands and feet.
Mathematics Used In The Field	Being able to perform accurate measurements and calculations will save you time and effort and will help you complete tasks correctly and efficiently.
Electrical Conductors	This content will help you understand the different types of wire and what they do when you are in homes.
Conductor Terminations	Termination points are the weakest link in any electrical circuit. Making quality terminations will ensure this link doesn't fail prematurely.
Electricity Basics	As a tradesperson, you'll need to have a basic understanding of electricity: both to perform job-related tasks and to stay safe.
Types of Electrical Circuits	Get a high-level overview of electrical circuits, how they work and what happens when there is a short circuit.
Understanding Electrical Measurements	Discover what multimeters are, how to test AC and DC systems, how to test amp draw on a circuit and how to test continuity in a system or component.
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Drawings and Blueprint Reading	You will be introduced to construction drawings and blueprints and will learn what you want to look at in terms of your job's function.
How To Read A Circuit Diagram	Understanding this will help you when installing equipment in a home.
Introduction To Residential Equipment	Introduces different types of furnaces, air handlers, heat pumps, boilers, air conditioners, and ductless systems you will run into.

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## Course Order and Descriptions

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HVAC Control Devices	You will understand what controls all the different components of the system, how to identify them, and know what they do.
Thermostat and Temperature Controls	Familiarize yourself with the different types of thermostats on the market and the best practices for installing and setting up a new thermostat.
Motors and Capacitors	You will learn about PSC and ECM blower motors and essential testing procedures. You will also learn about capacitors, what they are, and how to test and replace these as well.
Basic Duct Design	You will learn about the benefits of the different types of duct systems and how they are incorporated. You will learn about the basics of return air sizing on a system in the field.
Fans and Duct Materials	Learn about various blower styles and configurations, different fan designs and applications, common duct materials and fittings, how to properly clean a blower assembly, and be able to identify the characteristics of typical grilles, registers, and dampers.
Your Personal Health and Well Being	Examine your current behaviors that impact your health, as well as behaviors you might want to consider to improve your well-being.
Introduction to Heat, Combustion & Furnace Types	You will learn about the fundamentals of heat, safety in cold weather, complete and incomplete combustion, the types of gas furnaces you will encounter, and how to test for carbon monoxide in your customer's home.
Introduction to Furnace Safety Controls	You will learn about roll-out switches, limit switches, pressure switches, and flame sensing devices.
Ignition Systems	This lesson covers spark ignitors, hot surface ignitors, flame sensing devices and how to test and replace them.
Induced Draft Motor Assembly	Learn what induced draft motors do, why they are essential, and how to properly inspect them for proper operation.
Gas Piping, Gas Valves and Burners	You will learn about the proper methods of joining gas piping and checking for gas leaks, you will also learn what gas regulators are and how they affect the equipment you work on.
Introduction to Heat Exchangers	Gain understanding on how heat exchangers work, how they are constructed and what makes them deteriorate.
Venting Heating Systems	We will cover the different types of venting systems you will run across and the materials used for these venting systems.
Oil Heating	Learn about the main system components, the sequence of operation, and you will learn the differences between these compared to gas-fired heating equipment.
Combustion Air	Discover best practices on how to appropriately size combustion air for a mechanical room, and for a condensing furnace or boiler system.
Your Attitude	You are in control of your attitude and the choices you make. Awareness of your choices will help you have more control of your circumstances.
HVAC Level 1 Test	Successfully completing this test will grant you access into the next level.

## Course Order and Descriptions

Level 2: Basic Skills	
Cooling System Overview	You will learn about the main system components that make up the cooling and refrigeration system.
Refrigeration Tools and Measurements	You will learn how to use temperature probes, manifold gauges, and psychrometer.
Checking the Refrigerant Charge	Learn how to get specific readings so you can adequately identify if a system has a correct refrigerant charge.
Diagnosing the Refrigerant Charge	By understanding the check and charge process and how to check superheat and subcooling, you will start to understand what makes up an adequately charged system.
Your Daily Habits	There are certain daily habits and mindsets that will greatly help you grow as a residential service technician.
Maintenance Accessories	Learn about some of the different accessories available to the homeowner that you can provide for them during an annual maintenance visit,
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Working With People	Knowing and understanding what makes people tick will increase your ability to relate to customers and provide a better service experience.
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Indoor Air Quality	Learning about indoor air quality helps your customer's health and overall safety.
Sheet Metal Duct Systems	Learn how to join sheet metal ductwork, properly suspend and support sheet metal, and methods of proper ways to insulate sheet metal ductwork.
Flexible Duct and Fiberglass Duct Systems	Learn how to correctly fabricate, install, and repair flexible and fiberglass duct systems.
Basic Zoning Systems	We will discuss the major components of a zoning system, what they do, and how to perform basic maintenance on zoning systems.
Evaporative Coolers	You will learn about the different types of evaporative coolers and the various methods of installation.
Goal Setting	Big goals aren't impossible, you just need to approach them the right way. This course focuses on how to set measurable goals.
The Big Picture	You will be introduced to the four key roles of a technician and you will get an overview of what it means to work for an ethical company.
HVAC Level 2 Test	Successfully completing this test will grant you access into the next level.
Level 3: Intermediate Skills	
An Introduction To The Nexstar Service System	You will be introduced to the six steps of the Service System and you will complete reflection questions that will enhance your learning and better prepare you to work in the field with homeowners.



# HVAC Heating Start



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## Course Order and Descriptions

Service System Preparation	You will focus on the behavior needed to minimize callbacks and to provide exceptional service.
Basic Copper Piping Practices	You will be learning the basics of working with copper, including how to identify the different types of copper, how to properly cut, bend, and how to join copper fittings together.
Brazing and Soldering	Learn the industry best practices of soft soldering and brazing.
Recovery, Pressure, Testing and Evacuation	You will learn how to successfully recover, pressure test, and evacuate a system in the field.
Focus On The Greet Step	The lesson dives deep on creating a great first impression.
Air Conditioning System Installation Best Practices	You will learn how to install a lineset properly and how to support it properly, and we will also show you the best practices of installing the outdoor condensing unit and the indoor evaporator coil.
Focus On The Explore Step	You will gain insight into the importance of keeping your eyes and ears open to what the customer truly wants and needs. Asking questions is key.
Design Processes and Evaluations	By understanding what comfort advisors in your company go through, you will be able to gain a better understanding of what is involved in the design process.
Duct Sizing and Duct Modifications	Learn more advanced concepts of duct design, friction loss, and how to use a duct calculator (also known as a duct slide rule or ductulator).
Condenser Evaporator Coil Replacement and Repair	We will guide you on a step by step process of how this is done, along with showing you how to repair a damaged coil from a screw puncture.
Focus On The Present Step	Explaining your solution and options in the customer's language will inspire their confidence in you.
Vent Piping Design and Troubleshooting	Learn how to size a common venting system in a residential home.
Focus On The Execute Step	You will focus on all of the things you can do to shine as a craftsman and demonstrate your respect for the customer and their home.
Zone System Design and Installation	We will discuss dampers, bypass dampers, zone control panels, and troubleshooting of these devices along with proper start-up and installation procedures for a zoning system.
Alternative Heating and Cooling Systems	Learn about alternative heating sources, solar systems, geothermal systems, water source heat pumps, wood burning heating equipment, along with Radiant Heating and Cooling Systems.
Focus On The Wrap Up Step	You will focus on how to making sure the customer is satisfied with the work done, following up after the call and critiquing your performance.
What's It Like To Work In HVAC Installation?	Knowing what they do differently than you will give you greater understanding to how your whole company operates.
HVAC Level 3 Test	Successfully completing this test will grant you access into the next level.
Level 4: Advanced Skills and Customer Interactions	
Relays, Sequencers and Solenoids	Learn how to properly troubleshoot the different types of relays, sequencers and solenoid valves on operating equipment in the field.
Service Partner Plans and System Checks	You will learn how to introduce and explain service partner plans and system checks to homeowners.

# HVAC Heating Start

## Course Order and Descriptions

Troubleshooting Control Boards	Learn the most common methods of troubleshooting control boards.
Dealing With Pushbacks	Learn about being proactive or reactive in responding to objections.
Thermostat and Low Voltage Short Troubleshooting	Learn how to accurately troubleshoot a thermostat and be able to locate a short in a thermostat wire, and we will show you different methods on how to run a new thermostat wire.
Challenging Customer Situations	This course focuses on interesting and challenging situations you may come across in the field.
Troubleshooting Blower Motors	You will learn the basics of troubleshooting the different types of blower motors and how to properly replace them.
Troubleshooting Heating Safety Controls	Review how safety controls operate, and then we will show you how to diagnose these components and replace them in the field.
Induced Draft Motor Troubleshooting and Replacement	You will learn about the induced draft motor, how it works, why it is necessary, and how to properly troubleshoot.
Troubleshooting Igniters and Flame Rectification	You will learn about the different types of hot surface igniters, how they should operate, and how to troubleshoot.
Troubleshooting Gas Valves	We will cover troubleshooting gas valves, smart valves and gas piping issues. You will also learn how to replace a gas valve and installing an LP Conversion Kit.
Heating Exchanger Inspection and Replacement	Learn the best practices on how to troubleshoot a heat exchanger, along with a step-by-step process of how to correctly replace a primary and secondary heat exchanger in a condensing furnace.
Maximizing Efficiency: Help On The Job	You will spend time reviewing timecards, your summary of finding sheet and your personal resources, such as the call center and your dispatcher.
Troubleshooting Electric Heating Elements	Understanding how they work, the sequence of operations, and how to troubleshoot and replace will give you a skill set that will set you apart from other technicians
Troubleshooting Zoning Systems	You will learn how to properly diagnose the system so you know which component has failed and why
Build Your Future	You will review some key customer service concepts taught in NexTech Academy and provide you with ideas on how you can keep your learning going and build mentoring relationships with your colleagues.
Troubleshooting Oil Heating Systems	Learn about the most common problems associated with oil furnaces and how to troubleshoot and fix them.
Troubleshooting Condenser Fan Motors	You will learn the different troubleshooting methods for both PSC and ECM type condenser fan motors. We will then guide you on how to properly replace these motors on equipment
Commissioning Techniques	One of the biggest mis-diagnosed problems involving air conditioning systems is the refrigerant charge. You will be able to identify whether it is an airflow issue, a restriction, or a charging issue.

# HVAC Heating Start

## Course Order and Descriptions

Leak Detection Methods	You will be learning the different methods of finding leaks in residential air conditioning systems, common leak locations, how to spot these leaks, and how to properly replace a schrader core and cap on an air conditioner.
Diagnosing Compressors	You will learn the industry's best practices of diagnosing the most common compressor problems. You will also gain a better understanding of what the interpretations mean with your meter.
Replacing Compressors	You will learn the process of replacing a compressor.
Advanced Metering Device Diagnosis and Repair	Understanding the difference between airflow problems and faulty metering devices in the field are paramount to being able to diagnose a refrigerant circuit correctly and efficiently.
HVAC Level 4 Test	Successfully completing this test will grant you graduation from NexTech Academy!

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“We use NexTech as a systematic method of training a new employee from a new apprentice to a competent successful technician.

The program incorporates both technical training and the Nexstar Service System process in an organized step-by-step fashion to ensure that staff are all following the same proven system.

It also has reduced management time and accelerated the timeline to get an apprentice trained.”

John L Sullivan, Owner  
Sullivan Super Service

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## HVAC Cooling Only



## Course Order and Descriptions

Level 1: HVAC Fundamentals	
The History of HVAC	Have you ever wondered how HVAC worked 100 years ago? How about 500? This lesson covers the principles of heating, ventilation, air conditioning and refrigeration.
The Modern Day HVAC Industry	Understand the types of equipment you will be working on, along with the social skills you will need to build upon for your future in the industry.
Driving Safety	This is review on safe and defensive driving skills. You still need to have a valid license to operate a company's vehicle.
Electrical Safety	Electrical safety knowledge can be the difference between life and death for you, your coworkers or the homeowners you serve.
Personal Safety	You'll learn the basics of personal protective equipment (PPE).
Safety Awareness	You'll learn how to train your brain and your eyes to identify unsafe conditions. This course also covers regulations and safety standards.
Workspace Safety	You will spend time focusing on workplace procedures that will keep you safe from fire, falls, chemicals and injuring your hands and feet.
Mathematics Used In The Field	Being able to perform accurate measurements and calculations will save you time and effort and will help you complete tasks correctly and efficiently.
Electrical Conductors	This content will help you understand the different types of wire and what they do when you are in homes.
Conductor Terminations	Termination points are the weakest link in any electrical circuit. Making quality terminations will ensure this link doesn't fail prematurely.
Electricity Basics	As a tradesperson, you'll need to have a basic understanding of electricity: both to perform job-related tasks and to stay safe.
Types of Electrical Circuits	Get a high-level overview of electrical circuits, how they work and what happens when there is a short circuit.
Understanding Electrical Measurements	Discover what multimeters are, how to test AC and DC systems, how to test amp draw on a circuit and how to test continuity in a system or component.
Volts, Amps, Watts and Ohms	Get to know the common concepts of electricity.
Common Hand Tools	We'll introduce cutting and shaping tools, measurement and layout tools, tightening and loosening tools.
Common Measurement Tools	Almost everyone on earth has used a measuring tape or ruler at one point or another. Although they are common, they have many features that make them invaluable to a tradesperson.
Common Power Tools	You will become familiar with common power tools like drills, saws and others you will need to do your job.
Drawings and Blueprint Reading	You will be introduced to construction drawings and blueprints and will learn what you want to look at in terms of your job's function.
How To Read A Circuit Diagram	Understanding this will help you when installing equipment in a home.
Introduction To Residential Equipment	Introduces different types of furnaces, air handlers, heat pumps, boilers, air conditioners, and ductless systems you will run into.
Switches, Breakers and Disconnects	In this lesson, you will be introduced to the most common switches, breakers, and disconnects used in the HVAC Industry.

# HVAC Cooling Only



NEXTech  
HVAC

## Course Order and Descriptions

Transformers and Their Role In HVAC Systems	Learn about the sequence of operation for a standard oil-fired furnace and discover how to diagnose one in the field.
HVAC Control Devices	You will understand what controls all the different components of the system.
Thermostat and Temperature Controls	Learn the best practices for installing and setting up a new thermostat.
Motors and Capacitors	You will learn about PSC and ECM blower motors and essential testing procedures. You will also learn about testing and replacing capacitors.
Basic Duct Design	You will learn about different types of duct systems and how they are incorporated. You will learn about return air sizing on a system in the field.
Fans and Duct Materials	Learn about various blower styles and configurations, different fan designs and applications, common duct materials and fittings, and how to properly clean a blower assembly.
Your Personal Health and Well Being	Examine your current behaviors that impact your health, as well as behaviors you might want to consider to improve your well-being.
HVAC Level 1 Test	Successfully completing this test will grant you access into the next level.
<b>Level 2: Basic Skills</b>	
Cooling Systems Overview	You will learn about the main system components that make up the cooling and refrigeration system.
Refrigeration Tools and Measurements	You will learn how to use temperature probes, manifold gauges, and psychrometer.
Checking the Refrigerant Charge	Learn how to get specific readings so you can adequately identify if a system has a correct refrigerant charge.
Diagnosing The Refrigerant Charge	By understanding the check and charge process and how to check superheat and subcooling, you will start to understand what makes up an adequately charged system.
Your Daily Habits	There are certain daily habits and mindsets that will greatly help you grow as a residential service technician.
Your Attitude	You are in control of your attitude and the choices you make. Awareness of your choices will help you have more control of your circumstances.
Maintenance Accessories	Learn about some of the different accessories available to the homeowner that you can provide for them during an annual maintenance visit,
Refrigeration System Maintenance	You will learn the benefits of clean coils, and airflow.
Working With People	Knowing and understanding what makes people tick will increase your ability to relate to customers and provide a better service experience.
Communication	Focus on how important non-verbal communication is on the job. You will also practice how to be a clear and effective communicator.
Indoor Air Quality	Learning about indoor air quality helps your customer's health and safety.
Sheet Metal Duct Systems	Learn how to join sheet metal ductwork, properly suspend and support sheet metal, and methods of proper ways to insulate sheet metal ductwork
Flexible Duct and Fiberglass Systems	Learn how to fabricate, install, and repair flexible and fiberglass duct systems.
Basic Zoning Systems	We will discuss how to perform basic maintenance on zoning systems.

## Course Order and Descriptions

Goal Setting	Big goals aren't impossible, you just need to approach them the right way. This course focuses on how to set measurable goals.
The Big Picture	You will be introduced to the four key roles of a technician and you will get an overview of what it means to work for an ethical company.
HVAC Level 2 Test	Successfully completing this test will grant you access into the next level.
<b>Level 3: Intermediate Skills</b>	
An Introduction To The Nexstar Service System	You will be introduced to the six steps of the Service System and you will complete reflection questions that will enhance your learning.
Service System Preparation	You will focus on the behavior needed to minimize callbacks and to provide exceptional service.
Basic Copper Piping Practices	Learn how to identify the different types of copper, how to properly cut, bend, and how to join copper fittings together.
Brazing and Soldering	Learn the industry best practices of soft soldering and brazing.
Recovery, Pressure, Testing and Evacuation	You will learn how to successfully recover, pressure test, and evacuate a system.
Focus On The Greet Step	The lesson dives deep on creating a great first impression.
Air Conditioning System Installation Best Practices	You will learn how to install a lineset properly and how to support it properly, and we will also show you the best practices of installing the outdoor condensing unit and the indoor evaporator coil.
Focus On The Explore Step	You will gain insight into the importance of keeping your eyes and ears open to what the customer truly wants and needs. Asking questions is key.
Design Processes and Evaluations	By understanding what comfort advisors in your company go through, you will be able to gain a better understanding of what is involved in the design process.
Duct Sizing and Duct Modifications	Learn more advanced concepts of duct design, friction loss, and how to use a duct calculator (also known as a duct slide rule or ductulator).
Condenser Evaporator Coil Replacement and Repair	We will guide you on a step by step process of how this is done, along with showing you how to repair a damaged coil from a screw puncture.
Focus On The Present Step	Explaining your solution and options in the customer's language will inspire their confidence in you.
Vent Piping Design and Troubleshooting	Learn how to size a common venting system in a residential home.
Focus On The Execute Step	You will focus on all of the things you can do to shine as a craftsman and demonstrate your respect for the customer and their home.
Zone System Design and Installation	We will discuss dampers, bypass dampers, zone control panels, and troubleshooting these devices.
Alternative Heating and Cooling Systems	Learn about alternative heating sources, solar systems, geothermal systems, water source heat pumps, wood burning heating equipment, along with Radiant Heating and Cooling Systems.
Focus On The Wrap Up Step	You will focus on how to making sure the customer is satisfied with the work done, following up after the call and critiquing your performance.
What's It Like To Work In HVAC Installation?	Knowing what they do differently than you will give you greater understanding to how your whole company operates.



# HVAC Cooling Only



NEXTECH  
HVAC

## Course Order and Descriptions

HVAC Level 3 Test	Successfully completing this test will grant you access into the next level.
Level 4: Advanced Skills and Customer Interactions	
Relays, Sequencers and Solenoids	Learn how to properly troubleshoot the different types of relays, sequencers and solenoid valves on operating equipment in the field.
Service Partner Plans and System Checks	You will learn how to introduce and explain service partner plans and system checks to homeowners.
Troubleshooting Control Boards	Learn the most common methods of troubleshooting control boards.
Dealing With Pushbacks	Learn about being proactive or reactive in responding to objections.
Thermostat and Low Voltage Short Troubleshooting	Learn how to accurately troubleshoot a thermostat and be able to locate a short in a thermostat wire, and we will show you different methods on how to run a new thermostat wire.
Challenging Customer Situations	This course focuses on interesting and challenging situations you may come across in the field.
Troubleshooting Blower Motors	You will learn the basics of troubleshooting the different types of blower motors and how to properly replace them.
Maximizing Efficiency: Help On The Job	You will spend time reviewing timecards, your summary of finding sheet and your personal resources, such as the call center and your dispatcher.
Troubleshooting Electric Heating Elements	Understanding how they work, the sequence of operations, and how to troubleshoot and replace will give you a skill set that will set you apart from other technicians
Troubleshooting Zoning Systems	You will learn how to properly diagnose the system so you know which component has failed and why
Build Your Future	You will review some key customer service concepts taught in NexTech Academy and provide you with ideas on how you can keep your learning going and build mentoring relationships with your colleagues.
Troubleshooting Condenser Fan Motors	You will learn the different troubleshooting methods for both PSC and ECM type condenser fan motors. We will then guide you on how to properly replace these motors on equipment
Commissioning Techniques	One of the biggest mis-diagnosed problems involving air conditioning systems is the refrigerant charge. You will be able to identify whether it is an airflow issue, a restriction, or a charging issue.
Leak Detection Methods	You will be learning the different methods of finding leaks in residential air conditioning systems, common leak locations, how to spot these leaks, and how to properly replace a schrader core and cap on an air conditioner.
Diagnosing Compressors	You will learn the industry's best practices of diagnosing the most common compressor problems. You will also gain a better understanding of what the interpretations mean with your meter.
Replacing Compressors	You will learn the process of replacing a compressor.
Advanced Metering Device Diagnosis and Repair	Understanding the difference between airflow problems and faulty metering devices in the field are paramount to being able to diagnose a refrigerant circuit correctly and efficiently.
HVAC Level 4 Test	Successfully completing this test will grant you graduation from NexTech Academy!

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“NexTech Academy is the perfect way for a company to develop its own talent.

Until we can change the perception of the trades at the secondary and post-secondary education levels, we, as an industry, must think outside of the box to train the next generation of technicians ourselves.

I firmly believe that what Nexstar has been able to do with the NexTech Academy is exactly the tool that our industry has been screaming for.”

Greg Faulkner, Plumbing Manager  
Plumbing Today

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## Plumbing Curriculum



## Course Order and Descriptions

Level 1: Plumbing Fundamentals	
The History of Plumbing	You will gain understanding on how plumbing protects the health and wellness of the world.
The Big Picture	You will be introduced to the four key roles of a technician and you will get an overview of what it means to work for an ethical company.
Safety Awareness	You'll learn how to train your brain and your eyes to identify unsafe conditions. This course also covers regulations and safety standards.
Personal Safety	You'll learn the basics of personal protective equipment (PPE) and how to plan for safety.
Workspace Safety	You will spend time focusing on workplace procedures that will keep you safe from fire, falls, chemicals and injuring your hands and feet.
Driving Safety	This is review on safe and defensive driving skills. You still need to have a valid license to operate a company's vehicle.
Electrical Safety	Electrical safety knowledge can be the difference between life and death for you, your coworkers or the homeowners you serve.
Your Personal Health and Well Being	Examine your current behaviors that impact your health, as well as behaviors you might want to consider to improve your well-being.
Common Hand Tools	We'll introduce cutting and shaping tools, measurement and layout tools, tightening and loosening tools.
Common Measurement Tools	Almost everyone on earth has used a measuring tape or ruler at one point or another. Although they are common, they have many features that make them invaluable to a tradesperson.
Common Power Tools	You will become familiar with common power tools like drills, saws and others you will need to do your job.
Plumbing Specialty Tools	Specialized tools or single-purpose tools are effective because their purpose is focused on limited tasks
Electricity Basics	As a tradesperson, you'll need to have a basic understanding of electricity: both to perform job-related tasks and to stay safe.
Electrical Conductors	This content will help you understand the different types of wire and what they do when you are in homes.
Conductor Terminations For Plumbing	Termination points are the weakest link in any electrical circuit. Making quality terminations will ensure this link doesn't fail prematurely.
Volts, Amps, Watts and Ohms	Get to know the common concepts of electricity: volts, amps, watts and ohms!
Types of Electrical Circuits	Get a high-level overview of electrical circuits, how they work and what happens when there is a short circuit.
How To Read A Circuit Diagram	Understanding this will help you when installing equipment in a home.
Understanding Electrical Measurements	Discover what multimeters are, how to test AC and DC systems, how to test amp draw on a circuit and how to test continuity in a system or component.

## Course Order and Descriptions

Additional Electrical Test Equipment	You primarily deal with water and sanitation, but technology and power tools operate on electricity.
Your Attitude	You are in control of your attitude and the choices you make. Awareness of your choices will help you have more control of your circumstances.
Mathematics Used In The Field	Being able to perform accurate measurements and calculations will save you time and effort and will help you complete tasks correctly and efficiently.
Drawings and Blueprint Reading	You will be introduced to construction drawings and blueprints and will learn what you want to look at in terms of your job's function.
Your Daily Habits	There are certain daily habits and mindsets that will greatly help you grow as a residential service technician.
An Introduction To Plumbing Materials	One of the keys to being a successful plumbing professional is knowing which pipes and fittings to use in various applications.
Plumbing Fittings and Valves	This course relays how fittings are used, how they are referred to, and general knowledge about their roles in plumbing.
Plastic Pipes	Plastic is an inexpensive option for plumbing a home and has many applications in DWV.
Copper Tubing	This course introduces copper tubing and their applications in the plumbing industry.
Cast Iron	Cast iron is typically found in older homes or possibly at the toilet drain. Learn more about its application in plumbing.
Steel Pipes	Like other materials, there are preferred uses, pros, and cons about the material and its usage.
Pipe Supports	This course covers the variety of support and hangers for the plumbing system in a home.
An Introduction To The Nexstar Service System	You will be introduced to the six steps of the Service System and you will complete reflection questions that will enhance your learning and better prepare you to work in the field with homeowners.
Plumbing Level 1 Test	Successfully completing this test will grant you access into the next level.
<b>Level 2: Plumbing Basic Skills</b>	
Residential Systems In The Home	This lesson introduces the different systems found in the home such as the drain, waste, and vent system, water distribution, and fuel gas system.
Drains and Drain Cleaning Basics	Learn about drains in the home and the tools used to clean them.
Soldering	Homes built up to the early 21st century still have copper plumbing. Working with copper, it is important to understand soldering, which connects copper pipes and fittings together.
Piping Repairs and Alterations	Wear and tear from friction, running water, or accidental damage and puncture on pipes will require pipes to be repaired or altered.
Communication	Focus on how important non-verbal communication is on the job. You will also practice how to be a clear and effective communicator.

## Course Order and Descriptions

Plumbing Fixtures	Plumbing fixtures only have two jobs, to deliver clean water and get rid of dirty water. With modern styles and technology, homeowners have more options than ever to suit their needs and lifestyles.
Lavatory Sink Area Repairs	Learn about the possibilities of providing options to customers when thinking about lavatory sinks.
Tub and Shower Area	This lesson introduces common tasks that will be performed in this area.
Toilet Area Tasks	Identify the working parts and serviceable parts of a toilet.
Kitchen Sink Area	You will spend time on faucet installation, drain pipe installation, and the associated piping involved in their installation.
Appliance Related Tasks	This course introduces common appliances serviced by plumbing professionals.
Miscellaneous Plumbing Fixtures	This course is a repository for those fixtures that don't necessarily fall into other common categories in the house. Although you may not encounter or service these fixtures as a daily routine, they are still important to know.
Goal Setting	Big goals aren't impossible, you just need to approach them the right way. This course focuses on how to set measurable goals.
Sewage and Storm-water Pumps	This course introduces pumps, how they operate, types of pumps, styles of pumps, pits and their use, and installation practices as well as light troubleshooting.
Water Heater Installation and Replacement	This course teaches you how to identify each of the different types of water heaters and gives a high level view of how they work to heat water.
Service Partner Plans and System Checks	System checks and service partner plans protect customers, help develop loyalty and generate business during slower seasons. They are critical to the success of the company.
Preventative Maintenance Plans	A working knowledge of the process and what to look for to prevent unit and plumbing system failure.
Service System Preparation	You will focus on the behavior needed to minimize callbacks and to provide exceptional service.
Plumbing Level 2 Test	Successfully completing this test will grant you access into the next level.
<b>Level 3: Intermediate Skills</b>	
Troubleshooting: Getting Started	This is an overview of the troubleshooting process. Diagnosing a problem can save time and unnecessarily expensive repairs or replacements.
Faucet Repairs	You'll learn about seats, springs, stems, cartridges, o-rings, general faucet construction, etc.
Water Quality Solutions	Introduces the make-up of drinking water and what can be in it and the tools available to remedy common problems found in residential water quality settings.
Water Heater Troubleshooting and Repair	You will learn about how to troubleshoot and repair water heater parts.
Focus On The Greet Step	This lesson dives deep on creating a great first impression.
Plumbing Codes	This lesson introduces model codes and their effect on local codes.

## Course Order and Descriptions

Structural Alterations	This lesson outlines best practices in making alterations to structural members.
Focus On The Explore Step	You will gain insight into the importance of keeping your eyes and ears open to what the customer truly wants and needs. Asking questions is key.
Residential System Installation	This lesson outlines best practices for installing the various systems in the home.
Focus On The Present Step	Explaining your solution and options in the customer's language will inspire their confidence in you.
Water System Protection	Introduces what cross connections and back-flows are, what they can do, and the devices available to prevent such things.
Focus On The Execute Step	You will focus on all of the things you can do to shine as a craftsman and demonstrate your respect for the customer and their home.
Fuel Gas Systems	This lesson introduces fuel gas systems used in residential systems.
Focus On The Wrap Up Step	You will focus on how to making sure the customer is satisfied with the work done, following up after the call and critiquing your performance.
Advanced Drain Cleaning	Learn about large and small jetters and their components and attachments.
An Introduction To Sewer Repair and Replacement Calls	You will get a high-level view of how to speak with customers about sewer repair and replacement. Various issues will be broken down and you will get the chance to role play these types of calls.
Leak Detection	This course introduces the common methods of leak detection used in the plumbing industry today.
Plumbing Level 3 Test	Successfully completing this test will grant you access into the next level.
Level 4: Advanced Skills and Customer Interactions	
Private Water and Well Systems	You will learn about private wells, their components, and how they may be serviced.
Working With People	Knowing and understanding what makes people tick will increase your ability to relate to customers and provide a better service experience.
Recirculation Systems	This course introduces the system, why it's used, the parts that make a circulation system work and how it can malfunction.
Dealing With Pushbacks	Learn about being proactive or reactive in responding to objections.
Water Pressure Boosters	This is an informational course about water pressure boosters and niche plumbing services.
Boilers and Domestic Hot Water System	Learn the major parts of the system and how they work together to make hot water.
Solar Heating Systems	This lesson introduces solar water heating systems how they resemble boiler systems.
Challenging Customer Situations	This course focuses on interesting and challenging situations you may come across in the field.
Private Waste Disposal Systems	This informational course teaches about the different systems used to take care of the waste removal needs of customers with no access to municipal systems.

## Course Order and Descriptions

Lift Stations	The overview of lift stations, what they are, how they work, and why they are important to some homes.
System Sizing	This lesson is a deep dive into all the factors that affect the sizing of DWV, Storm, Water, and Fuel Gas Systems.
Maximizing Efficiency: Help On The Job	You will spend time reviewing timecards, your summary of finding sheet and your personal resources, such as the call center and your dispatcher.
Water Heater Retrofits	This course gives an overview of the determining factors that must be considered when upgrading a customer from a tank type to a tankless water heating system.
Repipes	This is an introduction to the circumstances that may lead to re-piping drain and water system components.
Remodels	The objective is to introduce students to remodels and some of the reasons a company might fall into them.
Commercial Plumbing	This course introduces the fixtures and systems found in commercial applications.
Build Your Future	You will review some key customer service concepts taught in NexTech Academy and provide you with ideas on how you can keep your learning going and build mentoring relationships with your colleagues.
Plumbing Level 4 Test	Successfully completing this test will grant you graduation from NexTech Academy!





# Electrical Curriculum



## Course Order and Descriptions

Level 1: Electrical Fundamentals	
The Big Picture	You will be introduced to the four key roles of a technician and you will get an overview of what it means to work for an ethical company.
The History of Electricity	Have you ever wondered how electricity has changed in homes from the 1890s until now?
Electricity Basics	As a tradesperson, you'll need to have a basic understanding of electricity: both to perform job-related tasks and to stay safe.
Safety Awareness	You'll learn how to train your brain and your eyes to identify unsafe conditions. This course also covers regulations and safety standards.
Personal Safety	You'll learn the basics of personal protective equipment (PPE) and how to plan for safety.
Workspace Safety	You will spend time focusing on workplace procedures that will keep you safe from fire, falls, chemicals and injuring your hands and feet.
Driving Safety	This is review on safe and defensive driving skills. You still need to have a valid license to operate a company's vehicle.
Electrical Safety	Electrical safety knowledge can be the difference between life and death for you, your coworkers or the homeowners you serve.
Common Hand Tools	We'll introduce cutting and shaping tools, measurement and layout tools, tightening and loosening tools.
Common Power Tools	You will become familiar with common power tools like drills, saws and others you will need to do your job.
Common Measurement Tools	Almost everyone on earth has used a measuring tape or ruler at one point or another. Although they are common, they have many features that make them invaluable to a tradesperson.
Your Attitude	The simplest choices to make: to be happy, present and positive, are not always the easiest. We'll discuss how your attitude impacts your job.
Your Personal Health and Well Being	Examine your current behaviors that impact your health, as well as behaviors you might want to consider to improve your well-being.
Resources To Expand Your Learning	This course introduces common resources that will contribute to your success as a residential electrician.
Mathematics Used In The Field	Being able to perform accurate measurements and calculations will save you time and effort and will help you complete tasks correctly and efficiently.
Volts, Amps, Watts and Ohms	Get to know the common concepts of electricity: volts, amps, watts and ohms!
Types of Electrical Circuits	Get a high-level overview of electrical circuits, how they work and what happens when there is a short circuit.
Understanding Electrical Measurements	Discover what multimeters are, how to test AC and DC systems, how to test amp draw on a circuit and how to test continuity in a system or component.

## Course Order and Descriptions

How To Read A Circuit Diagram	Understanding this will help you when installing equipment in a home.
Drawings and Blueprint Reading	You will be introduced to construction drawings and blueprints and will learn what you want to look at in terms of your job's function.
Material Considerations	What is needed to make a complete electrical system or any electrical installation? It is not just about the light you see or the receptacle you use.
Electrical Conductors	You'll focus on different types of wire, size and types of wire insulation.
Conductor Terminations	Termination points are the weakest link in any electrical circuit. Making quality terminations will ensure this link doesn't fail prematurely.
Electrical System and Component Protection	Learn why every electrical system needs fundamental safety components to provide protection and support.
Electrical Safety Devices	By the end of this module you will be able to identify and explain the function and purpose of the key safety devices of a basic electrical system.
Trade Definitions	This course focuses key terminology, acronyms and abbreviations that you will come across in the field.
Your Daily Habits	There are certain daily habits and mindsets that will greatly help you grow as a residential service technician.
An Introduction To The Nexstar Service System	You will be introduced to the six steps of the Service System and you will complete reflection questions that will enhance your learning and better prepare you to work in the field with homeowners.
Electrical Level 1 Test	Successfully completing this test will grant you access into the next level.
Level 2: Electrical Basic Skills	
Considerations When Drilling Holes	This course focuses on the methods of boring and drilling holes as a means to provide conductor protection and a path to route wiring.
Switching Configurations	At this stage in your training, you are geared up to apply basic switch functions to a customer's home!
Branch Circuits and Feeders	Branch circuits and feeders are two terms that can be dangerous if used interchangeably. This course will teach you that difference.
Sizing Over-current Protection	Determining the load to be served by a circuit is the first step in your electrical circuit design process.
Communication	Focus on how important non-verbal communication is on the job. You will also practice how to be a clear and effective communicator.
A Home's Basic Needs	Electrical installations need to be designed to best suit your customer's needs in a way that is safe and functional. This course will cover the basics that have to be covered.
Fixtures	Let us work together to light up your customer's lives by discovering the benefits and applications of available light fixture types that are used inside the home.
Panels and Related Components	Learn how to recognize and identify common types of main electrical panels, the purpose and function of the main breaker as well as identifying other necessary components.



## Course Order and Descriptions

Load Calculations	This course will use basic math skills to back up actions and decisions that are made by electricians daily.
Sizing Junction and Pull Boxes	Wiring stops and starts at enclosures. Sizing them appropriately is what you will learn how to do in this course.
Conductor Sizing	Several factors go into conductor selection when installing new circuits or wiring. These will be discussed in this lesson.
Troubleshooting Common Issues	In this course you will learn a logical, systematic approach to identify the source of common electrical issues for both 120v and 240v circuits.
Focus On Low Voltage Systems	As a residential service technician there are a few systems you will be questioned about or asked to install beyond the standard 120v/240v house wiring. These include phone, data, TV and doorbell systems.
Goal Setting	What are your goals? What is your plan to achieve them? How does goal setting impact your life?
Service System Preparation	You will focus on the behavior needed to minimize callbacks and to provide exceptional service.
Electrical Level 2 Test	Successfully completing this test will grant you access into the next level.
<b>Level 3: Intermediate Skills</b>	
Grounding and Bonding Systems	You will learn why the grounding and bonding systems are the cornerstone of electrical work.
Surge Protection	This course will demonstrate the importance of surge protection and the correct way to install it.
Improper Wiring Methods	Learn to recognize common issues that stand out visually and indicate imminent danger as it may appear in your customer's existing wiring.
Panel Health Checks	Routine panel health checks and regular maintenance reduce or eliminate the risk of fire due to electrical issues.
Focus On The Greet Step	The lesson dives deep on creating a great first impression.
Focus On The Explore Step	You will gain insight into the importance of keeping your eyes and ears open to what the customer truly wants and needs. Asking questions is key.
Focus On The Present Step	Explaining your solution and options in the customer's language will inspire their confidence in you.
Additions and Remodels	Additions and remodels impact a number of different trades, find out what to look out for in this course so you can help create the best experience possible for your customer.
Adding Electrical Components To Finished Homes	This course focuses on the knowledge, tools and tricks needed to navigate your wiring through finished walls and finished spaces.
Running Conduit: Electrical Metallic Tubing	You will discover what makes electrical metallic tubing unique from other wiring methods.
Running Conduit: Rigid Polyvinyl Chloride Conduit	Economical, versatile polyvinyl chloride (PVC) is used in a variety of applications in the building and construction, health care, electronics, automobile and other sectors. This course will focus on how it can be used in your trade.



## Course Order and Descriptions

Running Conduit: Rigid Metal Conduit	Learning how rigid metallic conduit is used and installed will allow more versatility and variety in your installations.
Running Flexible Conduit	In this course, we will explore three commonly used flexible conduit types: flexible metal conduit, armored liquid-tight or liquid-tight flexible metal conduit, and liquid-tight nonmetallic conduit
Design For Outbuildings	Thoroughly evaluating a customer's wants and needs are what will guide you when presenting options and installing wiring that is needed for outbuildings. This course covers the installation options available based on those needs.
Working With People	Knowing and understanding what makes people tick will increase your ability to relate to customers and provide a better service experience.
Focus On The Execute Step	You will focus on all of the things you can do to shine as a craftsman and demonstrate your respect for the customer and their home.
Motor Repair and Replacements	This course will fast track you through the most common motor repairs and replacements you will encounter as an electrical service technician.
Exterior Lighting	We will identify the purposes for great exterior lighting and help guide your customers on the best lighting layout.
Landscape Lighting	It's easy for customers to look at the bottom line when exploring landscape options or fall in love with the look of a certain light, but they need you to see the whole picture.
Ceiling Fans	In this course, you will learn to select the proper support type and install ceiling fans for different stages of home construction.
Focus On The Wrap Up Step	You will focus on how to making sure the customer is satisfied with the work done, following up after the call and critiquing your performance.
Electrical Level 3 Test	Successfully completing this test will grant you access into the next level.
Level 4: Advanced Skills and Customer Interactions	
Energy Saving Opportunities	This course will guide you towards equipment, tools and best practices to use when helping a customer discover energy-saving opportunities in their homes.
Service Partner Plans and Systems Checks	System checks and service partner plans protect customers, help develop loyalty and generate business during slower seasons. They are critical to the success of the company.
Panel Repairs	You will learn when to offer and how to make panel repairs as well as recognize when replacement is the better option.
Maximizing Efficiency: Help On The Job	You will spend time reviewing timecards, your summary of finding sheet and your personal resources, such as the call center and your dispatcher.
Panel Replacements	This course will prepare you for a variety of panel change situations so you are well equipped to investigate, install and communicate properly.
Subpanels	This course will guide you through evaluating existing situations to answer the question: Is a subpanel the best option for my customer?
Service and Meter Installations	This course will demonstrate which components need to be included in an electrical service installation or replacement.
Challenging Customer Situations	This course focuses on interesting and challenging situations you may come across in the field.



## Course Order and Descriptions

Troubleshooting Advanced Issues	Advanced troubleshooting tools and techniques will be introduced in this course as you learn effective ways to troubleshoot arc-fault issues, shared neutral circuits, buried splices, or issues affecting multiple circuits.
Dealing With Pushbacks	Learn about being proactive or reactive in responding to objections.
Factory Assembled Structures: Mobile and Manufactured Homes	Mobile and manufactured homes have unique limitations and requirements that you will need to be aware of when dispatched to a service call involving a repair or an addition to one of these structures.
Pools and Hot Tubs	Pools and hot tubs have unique wiring requirements. Identifying when hazards are present in existing installations and knowing how to make it safer is the focus of this course.
Build Your Future	You will review some key customer service concepts taught in NexTech Academy and provide you with ideas on how you can keep your learning going and build mentoring relationships with your colleagues.
Electrical Level 4 Test	Successfully completing this test will grant you graduation from NexTech Academy!



NexTech Select

## HVAC Select Training Courses- Nate® Approved

### Course Order and Descriptions

Advanced Electrical For HVAC Technicians – NATE® Approved	This select courses, follows from Intermediate Electrical for HVAC Technicians and takes it a step further. The student will further their background on how to read circuit diagrams, and gives an understanding of switches, breakers, disconnects, transformers, HVAC control devices, along with motors and capacitors. There is a certificate of completion offered to those that complete all courses within this offering. This select courses is NATE® Approved for NATE® CEU's to use toward re-certification.
Advanced Refrigeration Techniques For HVAC Technicians – NATE® Approved	This selected group of courses builds off of what was covered in the Refrigeration Techniques For HVAC Technicians course. It is great refresher content for more experienced technicians. This covers brazing and soldering techniques, recovery, pressure testing and evacuation, condenser and evaporator coil repair and replacement, troubleshooting airflow, and refrigerant problems, and advanced metering device diagnosis and repair. There is a certificate of completion offered for those who complete all courses within this offering. This select courses is NATE® Approved for NATE® CEU's to use toward re-certification.
Hydronics for HVAC Technicians – NATE® Approved Courses	This select group of courses offered to those who wish to learn more about and become successful boiler technicians. This offering is not designed for the new technician with no experience. We are not covering the fundamentals of the HVAC trade in this series of courses. They cover the fundamentals of Hydronics, the different water components included with boilers, Hydronic system piping methods, radiant heating, and glycol systems, and finishes with Hydronic system troubleshooting and maintenance procedures. There is a certificate of completion offered for those who complete all courses within this offering.
Intermediate Electrical For HVAC Technicians – NATE® Approved	In this series of courses, you will be introduced to the electrical side of the HVAC trade. The courses are designed to introduce and familiarize a student to the basics of electrical circuits and how they work. We will cover electrical safety, conductors, types of electrical circuits, and then finish with understanding basic electrical measurements. This select courses is NATE® Approved for NATE® CEU's to use toward re-certification.
Mastering Electrical For HVAC Technicians – NATE® Approved	This offering of courses is ideal for new and experienced technicians alike. This takes Advanced Electrical for HVAC students even further. In this series of courses, the student will gain a thorough knowledge of mastering their skills as it applies to troubleshooting HVAC electrical systems in the field. We will cover how to troubleshoot heating safety controls, control boards, all the different types of blower motors, how to diagnose compressors properly, and troubleshooting igniters and flame sensors. There is a certificate of completion offered for those who complete all courses in this offering. This select courses is NATE® Approved for NATE® CEU's to use toward re-certification.





## Course Order and Descriptions

Refrigeration Techniques For HVAC Technicians – NATE® Approved	For the technician that needs to polish their refrigeration skills, this course will teach you the fundamentals of refrigeration. This select group of courses includes an overview of the cooling system, refrigeration tools, and measurements, how to properly check the refrigerant charge, diagnosing the refrigerant charge, and how to properly run a maintenance visit on a cooling system in the field. There is a certificate of completion offered for those who complete all courses within this offering. This select courses is NATE® Approved for NATE® CEU's to use toward re-certification.
Safety For HVAC Service Technicians – NATE® Approved Courses	This select offering is made for every technician and apprentice in the company, covering key safety components that they need to master to work in the trades safely and responsibly. It covers the importance of a safety-first mindset, personal safety, workplace safety, driving safety and electrical safety. Training included in this bundle was developed by OSHA. There is a certificate of completion offered for those who complete all courses in this offering. This select courses is NATE® Approved for NATE® CEU's to use toward re-certification.
Steam Boilers for HVAC Technicians – NATE® Approved Courses	This select offering of courses are for those who wish to learn more about and become successful Steam boiler technicians. This offering is not designed for the new technician with no experience; therefore, we do not cover the fundamentals of the HVAC trade in this series of courses. The courses cover the fundamentals of steam systems, the different piping methods for steam systems, and finishes with Steam system troubleshooting and maintenance procedures. There is a certificate of completion offered for those who complete all courses within the offering. This select courses is NATE® Approved for NATE® CEU's to use toward re-certification.



# Plumbing Select Training Courses

## Course Order and Descriptions

Advanced Plumbing Fixture Troubleshooting and Repair	This group of courses are perfect for intermediate apprentices or technicians with some experience. The content goes into detail on troubleshooting best practices and repairs for faucets and water heaters.
Drain Cleaning	This group of courses explains the purpose of draining in a home and drain cleaning best practices. It also includes an introduction to sewer repair and replacement to help technicians have a complete overview of how these major systems are related and how mainline stoppages can convert to sewer replacements.
Fundamentals of Electricity for Plumbers	This select group of courses adds to the onboarding process for new technicians. It introduces electrical systems in the home and safety precautions that every plumber must take.
Plumbing Fixture Replacement	This select group of courses are great for new plumbing apprentices because it covers all basic fixture installation and repair.
Plumbing Preventative Maintenance Programs	This select group of courses covers the common preventative maintenance tasks performed by plumbing technicians.
Safety For Plumbing Service Technicians	This select group of courses are bundle was made for every technician and apprentice in the company, covering key safety components that they need to master to work in the trades safely and responsibly. It covers the importance of a safety-first mindset, personal safety, workplace safety, driving safety and electrical safety.
Water Heaters Only	This course covers all aspects of water heater installation, replacement, troubleshooting and more!



# Electrical Select Training Courses

## Course Order and Descriptions

Electrical Conductors Only	Focus on sizing and protecting electrical conductors in this selected group of courses. The content covers the fundamentals of conductors and has the students practice load calculations, conductor, and over current protection sizing.
Electrical Safety By Design	The safety of an electrical installation must be intentional. This select group of courses explores how a well-designed, properly maintained, and utilized electrical system can provide peace of mind for homeowners.
Electrical Service and Panels	This is a complete service and panel installation or replacement package! It focuses on the key and related, components of the electrical system. This series of courses guide the students on what to look for and how to address unsafe situations.
Electrical Troubleshooting	This selected group of courses focuses on the value of a consistent troubleshooting process for common issues and how they can be applied to more advanced situations. It includes the technical processes and useful communication tactics when working with customers. .
Electrical Wiring Methods	In this group of select courses the student starts with the basics of electrical conductors and wiring types. The content then dives into best practices, different material options available, what to watch out for, and how to use this information to add electrical components to finished homes.
Safety For Residential Electricians	The selected courses in this package are designed for every technician and apprentice in the company, covering key safety components that they need to master to work in the trades safely and responsibly. It covers the importance of a safety-first mindset, personal safety, workplace safety, driving safety and electrical safety. Training included in this bundle was developed by OSHA.







## NexTech On-The-Go

# NexTech On-The-Go



The video app is designed for mobile and on the go use. It can be downloaded through the app store or streamed through the web. The app included how-to-videos perfect for new technicians on the job that need a quick problem-solving resource. With over 180 videos live on the platform along with new videos added each month! Download Now!

On-the-Go

**Target Audience:**  
Technicians who want training support in their pocket.

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Streaming video application available on the web or in mobile app stores.

**Timeline:**  
24 / 7 access.

**Subscription plan**  
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Call NexTech coach for discount code  
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**NEXTECH ACADEMY**

## The best technical how-to videos at your fingertips.

The NexTech Academy On-The-Go app features over 180 instructional videos in three categories: plumbing, HVAC, and electrical. The app is perfect for technicians on the job that need a quick problem-solving resource.

**Start your free 7-day trial now!**

NextechAcademy.com

A smiling male technician wearing a dark blue polo shirt and a dark blue baseball cap, holding a tablet and looking at the screen. He has a red tool bag hanging from his waist.

# Making It Work in Your Business

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# SHAPING THE FUTURE OF OUR INDUSTRY THROUGH FLEXIBLE, ONLINE EDUCATION.

There is an increasing need for qualified HVAC, plumbing and electrical technicians. NextTech Academy provides online, comprehensive training programs for each of these trades designed to meet the workforce needs now and in the future.

**IF YOU'RE A BUSINESS OWNER**

## Easy and affordable technical training.

With NextTech Academy, you provide the people and access to our online resources and we'll handle the rest. Our proven training curriculum is backed by Nextar Network's 26+ years of industry experience. Our coaches work with your business managers and training leaders to reinforce the content that employees learn through NextTech Academy to produce technicians that deliver.

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## Learn a rewarding new trade.

Our self-paced program guides trainees through a variety of reading and writing assignments, hands-on skills assessments, and interactive exercises to gain technical skills specific to their trade. Additional soft skills training ensures new technicians are confident and ready to interact with clients in the field.

[EXPLORE OUR STUDENT EXPERIENCE.](#)

## Prepare for your future at a pace that's right for you.

NextTech Academy provides a flexible digital learning environment that enables you to develop the skills you need to become a confident, capable technician in your chosen trade.

### Plumbing Program

### HVAC Program

### Electrical Program

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