



Heating, Ventilation, Air Conditioning, & Refrigeration Technology

The HVAC & R program is an individual program that prepares students to work in a variety of jobs in the field of air conditioning and refrigeration. Students are prepared to troubleshoot, repair, and maintain residential and commercial refrigeration; air conditioning; heat pumps; humidifiers; and electrical and gas heating. Students also learn the fundamentals of electricity, electric motors, and controls. Graduates of the program will be able to install and braze refrigeration tubing, diagnose electrical problems; install duct systems; repair light commercial equipment; recover air conditioning and refrigeration refrigerants; locate and repair leaks.

Program/Location	Length	Days	Time
Day Program/ Knoxville Campus	16 Months	Monday-Friday	8:00am—2:30 pm
Night Program/Knoxville Campus	16 Months	Monday-Friday	3:30 pm—10:00 pm
Day Program/Strawberry Plains	16 Months	Monday-Friday	8:00am—2:30 pm

Curriculum/Courses

		Completion Award	Required Hours
HVA 0001	Worker Characteristic		
HVA 1010	Technology Foundations	HVAC Mechanic Assistant	Certificate 432
HVA 1020	OSHA		
HVA 1030	Shop Safety	Domestic Unit Repair	Certificate 864
HVA 1040	Refrigeration Fundamentals	Heating, Ventilation, and Air	Diploma 1296
HVA 1050	Tools Equip & Shop Practices	Conditioning Technician	
HVA 1060	Electricity and Controls I		
HVA 1070	Installation	Heating, Ventilation, Air	Diploma 1728
HVA 1080	Green Awareness	Conditioning and Refrigeration	
HVA 1090	Employment Readiness Exam	Technician	
HVA 0002	Worker Characteristic		
HVA 2010	Introduction to System Service		
HVA 2020	Basic Automatic Controls		
HVA 2030	Motors		
HVA 2040	Domestic Appliances		
HVA 2050	EPA		
HVA 2060	Employment Readiness Exam		
HVA 0003	Worker Characteristic		
HVA 3010	Gas Electric and Heat		
HVA 3020	Air Conditioning (Cooling)		
HVA 3030	Heat Pumps		
HVA 3040	Carbon Monoxide		
HVA 3050	All Weather Systems Exam		
HVA 0004	Worker Characteristic		
HVA 4010	Electricity and Controls II		
HVA 4020	Commercial Refrigeration		
HVA 4030	Employment Readiness Exam		

HOW TO APPLY

All Documents Must be Presented Together to Apply

- ⇒ Complete the **Free Application For Federal Student Aid (FAFSA)** online – the website is www.fafsa.ed.gov and our school code is 004025.
- ⇒ Complete **TCAT Knoxville Application for Enrollment** online at <https://apply.tbr.edu/?tcat=knoxville>



Heating, Ventilation, Air Conditioning, & Refrigeration Technology Book, Tool, and Supply List

For the most current pricing available please reference the bookstore at <http://www.pstccbooks.com/>
(Please Select Division Campus and TCATK term to see books available.)

1st Trimester			
Tuition	Cost	Total	
Tuition*	\$1,169.00		
Technology Access Fee*	\$ 67.00		
Student Activity Fee*	\$ 10.00		
OSHA 10 Training	\$ 25.00		
TOTAL			\$1,271.00

Book	ISBN	Cost	Required	
Bundle: Refrigeration & Air Conditioning Technology, 8th	9781305720817	\$ 272.00		
<i>Refrigeration & Air Conditioning Technology, 7th (part of bundle above)</i>	9781111644475		x	
<i>Lab Manual for Refrig..., 7th with access code (part of bundle above)</i>	9781111644581		x	
<i>Lab Manual for Refrigeration & Air Conditioning (part of bundle above)</i>	9781111644475		x	
<i>Internet Companion for 2 yrs (part of the bundle)</i>	no isbn		x	
EPA Cert Prep Manual for Air Conditioning & Refrigeration	9781930044005	\$ 18.00	x	
Electrical Theory & Application for HVACR	9781930044326	\$ 40.00	x	
TOTAL				\$330.00

Supplies	Needed By	Cost	Required	
Dark Blue Denim Jeans	First day of class	\$ 35.00	x	
2 Light Blue Short Sleeve Work Shirts	First day of class	\$ 44.00	x	
1 Light Blue Long Sleeve Work Shirt	First day of class	\$ 25.00	x	
1 Dark Blue Service Jacket	First day of class	\$ 40.00	x	
Black Belt	First day of class	\$ 20.00	x	
Steel Toe Work Boots	First day of class	\$ 140.00	x	
1 Pair Leather Work Gloves	First day of class	\$ 20.00	x	
Safety Glasses	First day of class	\$ 10.00	x	
USB Flash Drive 4 GB	First day of class	\$ 12.00	x	
TOTAL				\$346.00

Tools	Needed By	Cost	Required	
2-1" Digital Type Thermometer Pocket	First day of class		x	
2 Adjustable Wrenches (1-6" & 1-8")	First day of class		x	
2 Long Hex Key Sets 6" & 8" Length	First day of class		x	
1 Refrigeration Ratchet Wrench	First day of class		x	
1 Refrigeration Ratchet Hex Key Adapter	First day of class		x	
Refrigerant Hose 1/4"	First day of class		x	
3 Phillips Type Screwdriver #3, #4, #6	First day of class		x	
3 Blade Type Screwdriver #4, #6, #8	First day of class		x	
1 Set of 3 Low Loss Ball Valve Fitting	First day of class		x	
1 Set of Digital or Analog Manifold Gauges for Both R-22 & R410A	First day of class		x	
Combination Wrench Set 1/4" & 7/8"	First day of class		x	
Combination Wrench Set Metric #5 - #15	First day of class		x	
Flaring Block	First day of class		x	
Clamp-on Amp Meter w Voltage, Resistance Capacitance & Temp	First day of class		x	
Tubing Cutter for Copper Tube 1/8" x 1"	First day of class		x	
1/4 Drive Socket Set 1/8"-1/2" Combination Metric & Standard	First day of class		x	
3/8 Drive Socket Set 3/8"-1" Combination Metric & Standard	First day of class		x	
Swaging Tool Set 1/4", 3/8", 1/2", 5/8"	First day of class		x	
Tool Bag	First day of class		x	
10" Channellock Pliers	First day of class		x	
Wire Crimp Pliers	First day of class		x	

All Costs are Estimated and Subject to Change Without Notice Revised: 2/5/2018

*Denotes costs that can be covered by TN Promise and TN Reconnect

Diagonal Cutting Pliers	First day of class	x	
SAE Nut Driver Set	First day of class	x	
6" Straight Pliers	First day of class	x	
16' Steel Tape Measure	First day of class	x	
12 Ounce Ball Peen Hammer	First day of class	x	
Small Flashlight	First day of class	x	
Scrader Core Removal Tool	First day of class	x	
Lineman Electrical Pliers	First day of class	x	
Needle Nose Pliers 6" Length	First day of class	x	
Wire Stripper Pliers with Cutter	First day of class	x	
Inspection Mirror	First day of class	x	
Small Tubing Benders for 1/4", 3/8", & 1/2"	First day of class	x	
Mega Ohmmeter	First day of class	x	
TOTAL			\$1,745.00

Exam Cost	Cost		
Preventative Maintenance Technician Certification	\$ 20.00		
Green Technician Certification	\$ 20.00		
TOTAL			\$40.00

2nd Trimester			
Tuition	Cost		Total
Tuition*	\$1,169.00		
Technology Access Fee*	\$ 67.00		
Student Activity Fee*	\$ 10.00		
TOTAL			\$1,246.00

Exam Cost	Cost		
EPA 608 Exam	\$ 25.00		
EPA 410a Certification	\$ 20.00		
TOTAL			\$45.00

3rd Trimester			
Tuition	Cost		Total
Tuition*	\$1,169.00		
Technology Access Fee*	\$ 67.00		
Student Activity Fee*	\$ 10.00		
TOTAL			\$1,246.00

Exam Cost	Cost		
Electrical Employment Readiness Exam	\$ 15.00		
Air Conditioning Employment Readiness Exam	\$ 15.00		
Heat Pump Employment Readiness Exam	\$ 15.00		
TOTAL			\$45.00

4th Trimester			
Tuition	Cost		Total
Tuition*	\$1,169.00		
Technology Access Fee*	\$ 67.00		
Student Activity Fee*	\$ 10.00		
TOTAL			\$1,246.00

Exam Cost	Cost		
Air Conditioning Employment Readiness Exam	\$ 15.00		
Heat Employment Readiness Exam	\$ 15.00		
Electrical Employment Readiness Exam	\$ 15.00		
TOTAL			\$45.00

Miscellaneous Cost	Cost	Required	
Graduation Supplies	\$ 40.00	x	
TOTAL			\$ 40.00
TOTAL PROGRAM COST			\$7,645.00

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