

HVAC

HVAC (Heating, Ventilation and Air-Conditioning) systems technicians work on residential and commercial buildings installing and maintaining electrical, gas and oil heating and air-conditioning systems. Rapidly increasing technology in HVAC work requires employers to seek well trained employees from technical school training or apprenticeship programs. CITC's four-year program has been designed by highly qualified subject matter experts with this in mind. CITC classes present theoretical and practical skills essential to your success as an HVAC installer or technician.

HYBRID LEARNING PROGRAM

CITC has taken company-wide measures to help prevent the spread of the COVID-19 virus to ensure the health and safety of students, faculty, staff and the community. Due to the COVID-19 Pandemic, CITC classes will be delivered in a hybrid format with theory classes being offered virtually and small in-person labs scheduled at our facilities throughout the year. All in-person lab sessions will be scheduled to ensure students and faculty can maintain social distancing protocols during lab activities and performance testing.

Students will be required to have access to a computer or tablet device with a working camera and microphone. Additionally, all students will need to have access to a reliable internet source when classes begin in the fall. For additional information on the technical requirements for this program please contact the CITC office at (425) 454-2482.

Note: It is crucial that students have required books prior to the first class meeting. A student who does not have books by the end of the second week may be dismissed from class and charged with an absence.



APPRENTICESHIP MONTHLY WORK LOGS

Apprenticeship monthly work logs can be submitted to the apprenticeship department via email: worklogs@citcwa.org; fax: (425) 289-0085; mail to the CITC main office: 1930 116th Ave NE Bellevue, WA 98004; or placed in the Drop Box outside of CITC Facilities.

NCCERCONNECT 2.0 WITH PEARSON eTEXT ACCESS CARD

NCCERConnect 2.0 is an online training program that enhances student learning with a range of visual, auditory, and interactive elements. Your Pearson eText Access Card will give you access to an eBook version of the textbook included in the package.



NCCER BOOKSTORE

20% OFF

Enter code **NCCER20** to receive 20% off your NCCER books

Includes free shipping on your first order

www.nccer.org/bookstore

HVAC LEVEL 1

Minimum: 201 hours per year

HVAC 101: FALL QUARTER

Students will thoroughly review construction site safety; shop safety; introduction to trade mathematics; safe use of basic hand and power tools; blueprint reading; rigging; and HVAC tools. Schedule for lab dates will be handed out the first night of class each quarter.

HVAC 102: WINTER QUARTER

Students will learn HVAC related trade math; basic electricity for HVAC; and are introduced to cooling and heating principles and air distribution systems skills.

HVAC 103: SPRING QUARTER

Students will be introduced to basic copper, plastic piping, and basic carbon steel piping practices; soldering and brazing; and will review related National Electrical Code (NEC) articles and Washington State rules (RCW/WAC). Includes OSHA 10 training.

REQUIRED BOOKS - HVAC LEVEL 1

It is the student's responsibility to have the following book(s) on the first night of class:

NCCER Core Curriculum Package - includes the following: <ul style="list-style-type: none"> • Core Curriculum Trainee Guide, 5th Edition • Core Curriculum Trainee Guide, 5th Edition, NCCERConnect 2.0 with Pearson eText Access Card 	ISBN: 9780134391922
NCCER HVAC Level 1 Package: <ul style="list-style-type: none"> • HVAC Level 1 Trainee Guide, 5th Edition • HVAC Level 1 Trainee Guide, 5th Edition, NCCERConnect 2.0 with Pearson eText Access Card 	ISBN: 9780134820699
Modern Refrigeration and Air Conditioning Textbook, 20th Edition Bundle - Textbook, Workbook, and Lab Manual	ISBN: 9781631263545
2020 National Electric Code (NEC)	ISBN: 9781455922970
Washington State Electrical RCW/WACs	Free download available through L&I

HVAC LEVEL 2

Minimum: 201 hours per year

HVAC 201: FALL QUARTER

Students will learn about alternating current; transformers and motors used in HVAC; compressors; refrigerants and oils; leak detection; evacuation; and recovery and charging. Schedule for lab dates will be handed out the first night of class each quarter.

HVAC 202: WINTER QUARTER

Students will learn about metering devices, heat pumps, and basic maintenance. Students will also learn components of NEC and RCW/WAC rules related to HVAC, review green building practices, and will complete a review to prepare for the EPA exam.

HVAC 203: SPRING QUARTER

Students will learn about chimneys, vents and flues; sheet metal duct systems; fiberglass and fabric duct systems; commercial airside systems; air quality equipment; and will be introduced to hydronic systems.

REQUIRED BOOKS - HVAC LEVEL 2

It is the student's responsibility to have the following book(s) on the first night of class:

NCCER HVAC Level 2 Package: <ul style="list-style-type: none"> • HVAC Level 2 Trainee Guide, 5th Edition • HVAC Level 2 Trainee Guide, 5th Edition, NCCERConnect 2.0 with Pearson eText Access Card 	ISBN: 9780135393918
Your Role in the Green Environment, 4th Edition, Paperback or Your Role in the Green Environment, 4th Edition, Adobe Reader	ISBN: 9780136701200 ISBN: 9780136639282
Modern Refrigeration and Air Conditioning Textbook, 20th Edition Bundle - Textbook, Workbook, and Lab Manual	ISBN: 9781631263545
2017 National Electric Code (NEC)	ISBN: 9781455912773
Washington State Electrical RCW/WACs	Free download available through L&I

HVAC LEVEL 3

Minimum: 201 hours per year

HVAC 301: FALL QUARTER

Students will learn about refrigerants and oils; compressors; metering devices; and retail refrigeration systems. Schedule for lab dates will be handed out the first night of class each quarter.

HVAC 302: WINTER QUARTER

Students will learn about commercial hydronic systems; steam systems; planned maintenance; and water treatment practices.

HVAC 303: SPRING QUARTER

Students will learn about troubleshooting electronic controls; troubleshooting oil heating; troubleshooting heat pumps; and troubleshooting accessories.

REQUIRED BOOKS - HVAC LEVEL 3

It is the student's responsibility to have the following book(s) on the first night of class:

NCCER HVAC Level 3 Package: <ul style="list-style-type: none"> • HVAC Level 3 Trainee Guide, 5th Edition • HVAC Level 3 Trainee Guide, 5th Edition, NCCERConnect 2.0 with Pearson eText Access Card 	ISBN: 9780135393765
Modern Refrigeration and Air Conditioning Textbook, 20th Edition Bundle - Textbook, Workbook, and Lab Manual	ISBN: 9781631263545
2017 National Electric Code (NEC)	ISBN: 9781455912773
Washington State Electrical RCW/WACs	Free download available through L&I

HVAC LEVEL 4

Minimum: 201 hours per year

HVAC 401: FALL QUARTER

Students will learn about water treatment; indoor air quality; energy conservation equipment; and will review related National Electrical Code (NEC) articles and Washington State rules (RCW/WAC) related to HVAC. Schedule for lab dates will be handed out the first night of class each quarter.

HVAC 402: WINTER QUARTER

Students will learn about building management systems; system air balancing; systems start-up and shut down; and construction drawings and specifications.

HVAC 403: SPRING QUARTER

Students will learn about heating and cooling system design; commercial and industrial refrigeration systems; alternative heating and cooling systems; and are introduced to supervisory skills.

REQUIRED BOOKS - HVAC LEVEL 4

It is the student's responsibility to have the following book(s) on the first night of class:

NCCER HVAC Level 4 Package: <ul style="list-style-type: none"> • HVAC Level 4 Trainee Guide, 5th Edition • HVAC Level 4 Trainee Guide, 5th Edition, NCCERConnect 2.0 with Pearson eText Access Card 	ISBN: 9780135393772
Modern Refrigeration and Air Conditioning Textbook, 20th Edition Bundle - Textbook, Workbook, and Lab Manual	ISBN: 9781631263545
2017 National Electric Code (NEC)	ISBN: 9781455912773
Washington State Electrical RCW/WACs	Free download available through L&I
2017 Key Word Index by Tom Henry	ISBN: 9780997885743

HVAC Instructors

As a part of our dedication and commitment to training, we take pride in delivering top quality instructors. CITC's instructors are highly skilled journey-level workers who bring their knowledge and years of trade experience into the classroom. All CITC instructors have been certified by the National Center for Construction Education and Research.

Peter Chartrand is a graduate of CITC. Pete started in the trades in 1992 as a CITC Apprentice and was the HVAC student of the year in 1997. Pete became a CITC faculty member in 2007.

David Norman started in the trades in 1979 and became a CITC faculty member in 1991.

HVAC Schedule & Tuition

Western Washington Region

HVAC LEVEL 1								
Bellevue	101	Fall	16 weeks	87 hours	Mon/Wed	5p-8p	September 2 - December 16 + 1 Saturday	Tuition: \$1,545
Bellevue	102	Wtr	11 weeks	63 hours	Mon/Wed	5p-8p	January 4 - March 17 + 1 Saturday	Tuition: \$1,545
Bellevue	103	Spr	8 weeks	51 hours	Mon/Wed	5p-8p	April 5 - May 24 + 1 Saturday	Tuition: \$1,545
HVAC LEVEL 2								
Bellevue	201	Fall	15 weeks	87 hours	Tue/Thu	5p-8p	September 3 - December 10 + 1 Saturday	Tuition: \$1,545
Bellevue	202	Wtr	11 weeks	63 hours	Tue/Thu	5p-8p	January 5 - Mar 16 + 1 Saturday	Tuition: \$1,545
Bellevue	203	Spr	7 weeks	51 hours	Tue/Thu	5p-8p	April 6 - May 18 + 2 Saturdays	Tuition: \$1,545
HVAC LEVEL 3								
Bellevue	301	Fall	15 weeks	87 hours	Tue/Thu	5p-8p	September 3 - December 10 + 1 Saturday	Tuition: \$1,545
Bellevue	302	Wtr	11 weeks	63 hours	Tue/Thu	5p-8p	January 5 - Mar 16 + 1 Saturday	Tuition: \$1,545
Bellevue	303	Spr	7 weeks	51 hours	Tue/Thu	5p-8p	April 6 - May 18 + 2 Saturdays	Tuition: \$1,545
HVAC LEVEL 4								
Bellevue	401	Fall	4 weeks	87 hours	Fri/Sat	8a-5p	September 11 & 12; October 9 & 10; November 13 & 14; December 11 & 12	Tuition: \$1,545
Bellevue	402	Wtr	3 weeks	63 hours	Fri/Sat	8a-5p	January 8 & 9; February 12 & 13; March 12 & 13	Tuition: \$1,545
Bellevue	403	Spr	3 weeks	51 hours	Fri/Sat	8a-5p	April 9 & 10; May 14 & 15; June 11 & 12	Tuition: \$1,545



All first year classes include
OSHA 10 for Construction

