FRONT RANGE COMMUNITY COLLEGE

Heating, Ventilation, and Air Conditioning - Associate of Applied Science Degree

Code: F_AAS_HVA
Campus: Larimer

This program provides training in basic through advanced heating, ventilation, air conditioning, and refrigeration. Other topics in the program include: basic electricity and electrical components for HVACR, refrigerant tubing, fabrication, soldering, brazing, and trouble shooting, plus residential and commercial heating, hot water heating, industrial controls, advanced troubleshooting, customer service, teamwork, and communication.

All courses applied to the degree or certificate must be completed with a grade of C or above.

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a faculty member before registering for courses in this program of study. Students must complete the Industry Competency Exams (ICE) Residential Air Conditioning and Heating, Light Commercial Air Conditioning and Heating, and Commercial Refrigeration as a requirement for this AAS degree. Cost of each section of the ICE Exam is $30.00. Students need to sign up with the Testing Center before taking this exam and pay for the exam at the time of testing.

REQUIRED COURSES	***CREDITS***
CAD 100 Print Reading for CAD	3
HVA 101 Introduction to Air Conditioning and Refrigeration	4
HVA 102 Basic Refrigeration	4
HVA 103 Basic Electricity	3
HVA 104 Electrical Components for Air Conditioning and Refrigeration	4
HVA 122 Commercial Refrigeration	4
HVA 123 Air Conditioning	4
HVA 124 Advanced Air Conditioning	4
HVA 200 International Residential Code	2
HVA 201 Heating for Commercial Applications	3
HVA 202 Troubleshooting and Customer Service	3
HVA 203 Industrial Controls	3
HVA 247 Hot Water Heating Systems	4
HVA 280 Internship or HVA 289 Capstone	1
MTE 110 Manufacturing Communication and Teamwork or COM 125 Interpersonal Communication	3
Total Required Credits	***49***
REQUIRED GENERAL EDUCATION COURSES	***CREDITS***
ENG 131 (or higher) Technical Writing I	3
MAT 107 (or higher) Career Mathematics	3
PHY 105 (or higher) Conceptual Physics	4
General Studies Elective*	3
Social and Behavioral Sciences or Arts and Humanities Elective*	3
Total Required General Education Credits	***16***
Total Required Credits for AAS Degree	**65**

*Note: * Electives must be selected from the Approved General Education Electives List for the AAS degree.*

GAINFUL EMPLOYMENT DISCLOSURE INFORMATION

The U.S. Department of Education requires colleges to disclose a variety of information for any financial-aid-eligible program that "prepares students for gainful employment in a recognized occupation." The information provided here is the best available to us but represents one year's data only. We hope that this information is helpful to our current students and to prospective students as they make their career and educational choices. For more Gainful Employment information, please go to the FRCC website: www.frontrange.edu/GainfulEmployment.

Heating, Ventilation, and Air Conditioning - Certificates

Residential Air Conditioning and Heating Certificate

Code: F_CER_HVAA
Campus: Larimer

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this certificate of study. This certificate provides training in basic to advanced air conditioning and heating. Students must complete the Industry Competency Exam (ICE) Residential Air Conditioning and Heating as a requirement of this certificate. Cost of the Residential Air Conditioning and Heating ICE Exam is $30.00. Students need to sign up with the Testing Center before taking this exam and pay for the exam at the time of testing.

REQUIRED COURSES	*CREDITS*
HVA 101 Introduction to Air Conditioning and Refrigeration	4
HVA 102 Basic Refrigeration	4
HVA 103 Basic Electricity	3
HVA 104 Electrical Components for Air Conditioning and Refrigeration	4
HVA 123 Air Conditioning	4
HVA 124 Advanced Air Conditioning	4
HVA 200 International Residential Code	2
HVA 202 Troubleshooting and Customer Service	3
HVA 247 Hot Water Heating Systems	4
MTE 110 Manufacturing Communication and Teamwork or COM 125 Interpersonal Communication	3
Total Required Credits for Certificate	**35**

Light Commercial Air Conditioning and Heating Certificate

Code: F_CER_HVL
Campus: Larimer

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this certificate of study. This certificate provides training in light commercial air conditioning and heating. Students must complete the Industry Competency Exam (ICE) Light Commercial Air Conditioning and Heating as a requirement of this certificate. Cost of the Light Commercial Air Conditioning and Heating ICE Exam is $30.00. Students need to sign up with the Testing Center before taking this exam and pay for the exam at the time of testing.

REQUIRED COURSES	*CREDITS*
HVA 101 Introduction to Air Conditioning and Refrigeration	4
HVA 102 Basic Refrigeration	4
HVA 103 Basic Electricity	3
HVA 104 Electrical Components for Air Conditioning and Refrigeration	4
HVA 123 Air Conditioning	4
HVA 124 Advanced Air Conditioning	4
HVA 200 International Residential Code	2
HVA 201 Heating for Commercial Applications	3
HVA 202 Troubleshooting and Customer Service	3
HVA 203 Industrial Controls	3
MTE 110 Manufacturing Communication and Teamwork or COM 125 Interpersonal Communication	3
Total Required Credits for Certificate	**37**

Commercial Refrigeration Certificate

Code: F_CER_HVAM
Campus: Larimer

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this certificate of study. Students scoring below this level should consult with a faculty member before registering for

courses in this certificate of study. This certificate provides training in residential and commercial refrigeration. Students must complete the Industry Competency Exam (ICE) Commercial Refrigeration as a requirement of this certificate. Cost of Commercial Refrigeration ICE Exam is $30.00. Students need to sign up with the Testing Center before taking this exam and pay for the exam at the time of testing.

REQUIRED COURSES	*CREDITS*
HVA 101 Introduction to Air Conditioning and Refrigeration	4
HVA 102 Basic Refrigeration	4
HVA 103 Basic Electricity	3
HVA 104 Electrical Components for Air Conditioning and Refrigeration	4
HVA 122 Commercial Refrigeration	4
HVA 202 Troubleshooting and Customer Service	3
HVA 203 Industrial Controls	3
MTE 110 Manufacturing Communication and Teamwork or COM 125 Interpersonal Communication	3
Total Required Credits for Certificate	**28**