

This program provides the knowledge and skills for entry into the air conditioning, heating and refrigeration industry in the areas of installation and maintenance as well as upgrading and refresher courses for those already employed in the field. All heating, air conditioning, and refrigeration classes will be updated to reflect today's changing energy efficiency requirements. LEED requirements will be incorporated into all curriculum and additional classes will be offered to support the new energy efficiency needs. Please consult with a construction technology advisor at 303.914.6367.

Bachelor of Science transfer program: All Construction Technology Associate of Applied Science graduates are eligible to participate in the Colorado Community College Pathways program, a strategic partnership between DeVry University – Colorado and Red Rocks Community College. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a Bachelor of Science in Technical Management in as few as two semesters. Additionally, graduates of the HVAC/R Program may transfer to Ferris State University to pursue a baccalaureate degree. Contact your Construction Technology advisor for details.

Related course work may be found under Carpentry, Construction Technology, Electricity, Industrial Maintenance Technology, Plumbing, Process Technology, and Renewable Energy Technology.

Degrees: Associate of Applied Science

Air Conditioning, Heating and Refrigeration
Air Conditioning Refrigeration Heating
Hydronic Heating Building Automation

Certificates:

Air Conditioning
Level I Refrigeration
Level II Refrigeration
Refrigeration
HVAC Fundamentals
HVAC Controls Technician
Forced-Air Heating
Hydronic Heating
Building Automation
Air Conditioning, Heating/Refrigeration
Apprenticeship Program

AAS Degree

Air Conditioning, Heating and Refrigeration

Required Courses	Credits
Level I Refrigeration Certificate	10
HVA 110 Fundamentals of Gas Heating	4
HVA 111 Piping Skills	4
HVA 132 Air Conditioning and Refrigeration Controls	4
HVA 134 Air Conditioning Systems	4
HVA 162 Heating Controls	4
HVA 206 International Mechanical Code	4
HVA 240 Servicing Forced Air Systems	4
HVA 247 Hot Water Heating Systems	4
Construction Technology Core Requirements	10
Choose a minimum of 10 credits from the following course prefixes: CON, ENT, ENY AEC, OSH.	
General Education Requirements	15
See page 17 of the 09-10 Catalog.	
Total Credits	67

AAS Degree

Air Conditioning

Required Courses	Credits
Air Conditioning Certificate	34
HVA 263 Chillers	4
Construction Technology Core Requirements	10
Choose a minimum of 10 credits from the following classes prefixes: CON, ENT, ENY AEC, OSH.	
General Education Requirements	15
See page 17 of the 09-10 Catalog.	
Total Credits	63

AAS Degree

Refrigeration

Required Courses	Credits
Refrigeration Certificate	30
HVA 231 Pneumatic Controls	4
HVA Electives	4
Construction Technology Core Requirements	10
Choose a minimum of 10 credits from the following classes prefixes: CON, ENT, ENY AEC, OSH.	
General Education Requirements	15
See page 17 of the 09-10 Catalog.	
Total Credits	63

AAS Degree

Heating

Required Courses	Credits
OSH 127 10-HR Construction Industry Standards	1
HVA 111 Piping Skills	4
HVA 105 Electricity for HVAC/R	4
HVA 110 Fundamentals of Gas Heating	4
HVA 140 Basic Sheet Metal	4
HVA 162 Heating Controls	4
HVA 206 International Mechanical Code	4
PLU 208 International Fuel Gas Code	4
HVA 247 Hot Water Heating Systems	4
HVA 257 Low Pressure Steam Heating	4
Construction Technology Core Requirements	10

Choose a minimum of 10 credits from the following course prefixes:
CON, ENT, ENY AEC, OSH.

General Education Requirements	15
See page 17 of the 09-10 Catalog.	
Total Credits	62

AAS Degree

Hydronic Heating

Required Courses	Credits
Hydronic Heating Certificate	37
Construction Technology Core Requirements	10
Choose a minimum of 10 credits from the following classes prefixes: CON, ENT, ENY AEC, OSH.	
General Education Requirements	15
See page 17 of the 09-10 Catalog.	
Total Credits	62

AAS Degree

Building Automation

Required Courses	Credits
Level 1 Refrigeration Certificate	10
Building Automation Certificate (less HVA 105)	25
Construction Technology Core Requirements	10
Choose a minimum of 10 credits from the following classes prefixes: CON, ENT, ENY AEC, OSH.	
General Education Requirements	15
See page 17 of the 09-10 Catalog.	
Total Credits	60

Certificate

Air Conditioning

Required Courses	Credits
Level 1 Refrigeration Certificate	10
HVA 111 Piping Skills	4
HVA 132 Air Conditioning and Refrigeration Controls	4
HVA 134 Air Conditioning Systems	4
HVA 140 Basic Sheet Metal	4
HVA 206 International Mechanical Code	4
HVA 261 Air Conditioning Systems Service and Repair	4
Total Credits	34

Certificate

Level I Refrigeration

Required Courses	Credits
OSH 127 10-HR Construction Industry Standards	1
HVA 102 Basic Refrigeration	4
HVA 105 Electricity for HVAC/R	4
HVA 113 Refrigerant Recovery Training	1
Total Credits	10

Certificate

Level II Refrigeration

Required Courses	Credits
Level I Refrigeration Certificate	10
HVA 132 Air Conditioning and Refrigeration Controls	4
HVA 233 Advanced Refrigeration or	
HVA 261 A/C Systems Service and repair	4
Total Credits	18

Certificate

Refrigeration

Required Courses	Credits
Level I Refrigeration Certificate	10
HVA 111 Piping Skills	4
HVA 122 Commercial Refrigeration or	
HVA 233 Advanced Refrigeration	4
HVA 132 A/C and Refrigeration Controls	4
HVA 206 International Mechanical Code	4
HVA xxx HVA Electives	4
Total Credits	30

A course numbered XXX means that the course is pending approval by the RRCC Curriculum Committee and CCCS.

Certificate

HVAC Fundamentals

Required Courses	Credits
OSH 127 10-HR Construction Industry Standards	1
HVA 102 Basic Refrigeration	4
HVA 105 Electricity for HVAC/R	4
HVA 110 Fundamentals of Gas Heating	4
HVA 113 Refrigerant Recovery Training	1
Total Credits	14

Certificate

HVAC Controls Technician

Required Courses	Credits
OSH 127 10 HR Construction Industry Standards	1
HVA 105 Electricity for HVAC/R	4
HVA 110 Fundamentals of Gas Heating	4
HVA 132 Air Conditioning/Refrigeration Controls	4
HVA 162 Heating Controls	4
HVA 231 Pneumatic Controls	4
Total Credits	21

Certificate

Forced-Air Heating

Required Courses	Credits
OSH 127 10-HR Construction Industry Standards	1
HVA 105 Electricity for HVAC/R	4
HVA 110 Fundamentals of Gas Heating	4
HVA 140 Basic Sheet Metal	4
HVA 162 Heating Controls	4
HVA 200 Residential Code Mechanical and Fuel Gas 2	4
HVA 206 International Mechanical Code	4
PLU 150 Code and Piping Calculations	2
PLU 208 Fuel Gas Code	4
HVA 240 Servicing Residential Forced Air Systems	4
Total Credits	33

Certificate

Hydronic Heating

Required Courses	Credits
OSH 127 10-HR Construction Industry Standards	1
HVA 105 Electricity for HVAC/R	4
HVA 110 Fundamentals of Gas Heating	4
HVA 111 Piping Skills	4
HVA 162 Heating Controls	4
HVA 206 International Mechanical Code	4
HVA 247 Hot Water Heating Systems	4
HVA 257 Low Pressure Steam Heating	4
HVA 267 Radiant Heating Systems	4
PLU 208 Fuel Gas Code	4
Total Credits	37

Certificate

Building Automation

Required Courses	Credits
OSH 127 10 HR Construction Industry Standards	1
HVA 105 Electricity for HVAC/R	4
HVA 132 Air Conditioning/Refrigeration Controls	4
HVA 134 Air Conditioning Systems	4
HVA 231 Pneumatic Controls	4
HVA 251 Building Automation 1	4
HVA 252 Building Automation 2	4
HVA 253 Building Automation 3	4
Total Credits	29

Certificate

Air Conditioning, Heating/Refrigeration Apprenticeship Program

Required Courses	Credits
Level 1 Refrigeration Certificate	10
HVA 110 Fundamental of Gas Heating	4
HVA 132 Air Conditioning and Refrigeration Controls	4
HVA 140 Basic Sheet Metal	4
HVA 162 Heating Controls	4
PLU 208 Fuel Gas Code	4
HVA 206 International Mechanical Code or	4
CON 230 Blueprint Reading	4
Total Credits	34