

Heating Ventilation, Air Conditioning and Refrigeration | Associate in Applied Science

Field of Study Code: HVACR.AAS.CONTRA

Catalog Description:

The **HVACR Contractor degree** is intended to provide the technical and business skills required to be successful as an HVACR Contractor. This degree requires a minimum of 64 credits in program requirements and general education in the courses listed below.

Program Requirements	46
Hvacr 1100 Refrigeration Principles	3
Hvacr 1105 Introduction to Safety, Materials and Equipment	3
Hvacr 1108 Refrigerant Certification	1
Hvacr 1110 Introduction to Electricity and HVACR Controls	3
Hvacr 1161 Introduction to Sheet Metal	2
Hvacr 1181* Heating Principles	3
Hvacr 2180 Residential and Light Commercial Forced-Air Heating	3
Hvacr 2201* Residential Air Conditioning	3
Hvacr 2202* Commercial Air Conditioning	3
Hvacr 2210* Commercial Refrigeration	5
Hvacr 2220* Installation	3
Hvacr 2225* Troubleshooting Systems	3
Hvacr 2240 Load Calculations and Duct Design	5
Hvacr 2260* Heating and Air Conditioning Contracting	3
Manag2210 Principles of Management	3

* - course has a prerequisite

General Education 18 to 22

For the **Contractor degree**, students are required to take a minimum of 18 credits in General Education. (In addition to the courses listed below.)

Under the specified General Education headings below, the following courses are required:

Communication: 6 credits

Written: (3 credits) English 1101 or 1105

Oral: (3 credits) Speech 1100, 1120 or 1150

Physical and Life Sciences: 3 to 5 credits

At least one course with a laboratory component.

Mathematics: 3 to 5 credits

Select a minimum of 3 credits (1000 level or above).

Select Mathematics 1102, 1104 or 1120 only where required in the degree program. Only one from the following three courses may count toward overall degree requirement credit: Mathematics 1635, Psychology 2280 or Sociology 2205. Only one of the following courses may count toward overall degree credit: Mathematics 1428 or Mathematics 1431.

Suggested Course Sequence (Full-Time Enrollment)

Please note: A student's readiness to perform college-level coursework is based on the student's placement test and/or ACT scores. Below 1000 level coursework may be required prior to the student taking courses in the suggested sequences.

First Semester (15 to 17 credits)

- Hvacr 1100 (3)
- Hvacr 1105 (3)
- Hvacr 1110 (3)
- Hvacr 1181 (3)
- General Education (3 to 5)

Second Semester (14 to 16 credits)

- Hvacr 1161 (2)
- Hvacr 2180 (3)
- Hvacr 2201 (3)
- Hvacr 2202 (3)
- General Education (3 to 5)

Summer Term (6 to 8 credits)

- Hvacr 2220 (3)
- General Education (3 to 5)

Third Semester (15 to 19 credits)

- Hvacr 1108 (1)
- Hvacr 2210 (5)
- Hvacr 2225 (3)
- General Education (3 to 5)
- General Education (3 to 5)

Fourth Semester (14 to 16 credits)

- Hvacr 2240 (5)
- Hvacr 2260 (3)
- Manag 2210 (3)
- General Education (3 to 5)

For more information:

If you are considering this program as an area of study, please contact the **Business and Technology Division** office at 630-942-2592.

Program web site:

<http://www.cod.edu/programs/hvacr/>

HVACR.AAS.CONTRA

Humanities and Fine Arts: 3 credits

Social and Behavioral Sciences: 3 credits

Complete at least 2 credits from the list of courses in the
Global/Multicultural Studies or Contemporary Life Skills Category
*(Heating, Ventilation, Air Conditioning & Refrigeration 1110 in program
requirements fulfills this requirement)*

TOTAL CREDITS FOR AAS DEGREE

64 to 68

Career Information HVACR.AAS.CONTRA

Job Title(s): Technical Contractor HVAC, Construction Manager

Foreman, Construction Area Manager, Construction Foreman, Construction Manager, Construction Superintendent, General Contractor, Job Superintendent, Project Executive, Project Manager, Project Superintendent

For salary and wage information, please visit: www.onetonline.org

If you would like information regarding internships, resume development, interviewing and job search skills, please contact the Career Services Center

Phone: 630-942-2230

www.cod.edu/careerservices

Twitter: @codcareercenter

Related Occupations:

General and Operations Managers

Architectural and Engineering Managers

Energy Engineers

Fire-Prevention and Protection Engineers

Logistics Managers

Civil Engineers

Environmental Engineers

Occupational Health and Safety Specialists

Transportation Engineers

Heating Ventilation, Air Conditioning and Refrigeration | Associate in Applied Science

Field of Study Code: HVACR.AAS.MAINT

Catalog Description:

The **Facility Maintenance Mechanic degree** is designed for the individual seeking a career in Facility Maintenance. The degree prepares students for commercial and industrial facility maintenance employment. There are emphases in both commercial and industrial HVACR to allow students to create their own career pathways. This degree requires a minimum of 64 credits in program requirements, electives and general education in the courses listed below.

Program Requirements	31
Hvacr 1100 Refrigeration Principles	3
Hvacr 1105 Introduction to Safety, Materials and Equipment	3
Hvacr 1108 Refrigerant Certification	1
Hvacr 1110 Introduction to Electricity and HVACR Controls	3
Hvacr 1181* Heating Principles	3
Hvacr 2110* Facility Electrical Systems	3
Hvacr 2186* Hydronic Heating	3
Hvacr 2187* Central Heating Plants	3
Hvacr 2202* Commercial Air Conditioning	3
Hvacr 2236* Central Cooling Plants	3
Hvacr 2242* Mechanical Systems	3

Program Electives 15

Select at least 15 credits from HVACR courses, or the other courses as specified under the Emphasis Courses options. Students may also choose to focus elective coursework by focusing on Commercial or Industrial Maintenance by taking emphasis courses. Students may also choose general electives in any HVACR courses. (In addition to the courses listed above.)

Emphases Courses

Commercial Facility Maintenance

Hvacr 2210* Commercial Refrigeration	5
Hvacr 2230* HVACR Control Systems	3
Hvacr 2231* Building Automation Control Devices	3
Hvacr 2250* System Balancing	3

Industrial Maintenance

Hvacr 2241* Industrial Air Conditioning Design	3
Elmec 1190 Introduction to Programmable Logic Controllers	3
Manuf 1151 Machine Shop I	3
Weld 1100 Welding I	3

* - course has a prerequisite

General Education 18 to 22

Each candidate for an Associate in Applied Science (A.A.S.) degree shall satisfactorily complete a minimum of 18 credits in General Education.

Suggested Course Sequence (Full-Time Enrollment)

Please note: A student's readiness to perform college-level coursework is based on the student's placement test and/or ACT scores. Below 1000 level coursework may be required prior to the student taking courses in the suggested sequences.

First Semester (15 to 17 credits)

- Hvacr 1100 (3)
- Hvacr 1105 (3)
- Hvacr 1110 (3)
- Hvacr 1181 (3)
- General Education (3 to 5)

Second Semester (13 to 15 credits)

- Hvacr 1108 (1)
- Hvacr 2110 (3)
- Hvacr 2186 (3)
- Hvacr 2202 (3)
- General Education (3 to 5)

Summer Semester (6 to 8 credits)

- General Education (3 to 5)
- Program Elective (3)

Third Semester (15 to 17 credits)

- Hvacr 2187 (3)
- Program Elective (3)
- Program Elective (3)
- Program Elective (3)
- General Education (3 to 5)

Fourth Semester (15 to 17 credits)

- Hvacr 2236 (3)
- Hvacr 2242 (3)
- Program Elective (3)
- General Education (3 to 5)
- General Education (3 to 5)

For more information:

If you are considering this program as an area of study, please contact the **Business and Technology Division** office at 630-942-2592.

Program web site:

<http://www.cod.edu/programs/hvacr/>

HVACR.AAS.MAINT

Under the specified General Education headings below, the following courses are required:

Communication: 6 credits

Written: (3 credits) English 1101 or 1105

Oral: (3 credits) Speech 1100, 1120 or 1150

Physical and Life Sciences: 3 to 5 credits

At least one course with a laboratory component.

Mathematics: 3 to 5 credits

Select a minimum of 3 credits (1000 level or above).

Select Mathematics 1102, 1104 or 1120 only where required in the degree program. Only one from the following three courses may count toward overall degree requirement credit: Mathematics 1635, Psychology 2280 or Sociology 2205. Only one of the following courses may count toward overall degree credit: Mathematics 1428 or Mathematics 1431.

Humanities and Fine Arts: 3 credits

Social and Behavioral Sciences: 3 credits

Complete at least 2 credits from the list of courses in the

Global/Multicultural Studies or Contemporary Life Skills Category

(Heating, Ventilation, Air Conditioning & Refrigeration 1110 in program requirements fulfills this requirement)

TOTAL CREDITS FOR AAS DEGREE

64 to 68

Career Information HVACR.AAS.MAINT

Job Title(s): Facility Maintenance Mechanic, Industrial Maintenance Mechanic, Stationary Engineers and Boiler Operators, Boiler Operator, Boiler Technician, Building Engineer, Fireman, Operating Engineer, Plant Operator, Plant Utilities Engineer, Stationary Engineer, Stationary Steam Engineer, Utilities Operator

For salary and wage information, please visit: www.onetonline.org

If you would like information regarding internships, resume development, interviewing and job search skills, please contact the Career Services Center

Phone: 630-942-2230

www.cod.edu/careerservices

Twitter: @codcareercenter

Related Occupations:

Industrial Machinery Mechanics

Ship Engineers

Gas Compressor and Gas Pumping Station Operators

Electrical and Electronics Repairers, Powerhouse, Substation, and Relay

Gas Plant Operators

Power Plant Operators

Control and Valve Installers and Repairers, Except Mechanical Door

Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation

Heating Ventilation, Air Conditioning and Refrigeration | Associate in Applied Science

Field of Study Code: HVACR.AAS.HVAC

Catalog Description:

The **Heating, Air Conditioning and Refrigeration Service Technician degree** offers training in current technology for diagnosing, servicing, repairing, installing and maintaining heating, air conditioning, refrigeration and energy systems. There are emphases in both residential and commercial HVACR to allow students to create their own career pathways. This degree requires a minimum of 64 credits in program requirements, program electives and general education in the courses listed below.

Program Requirements	33
Hvacr 1100 Refrigeration Principles	3
Hvacr 1105 Introduction to Safety, Materials and Equipment	3
Hvacr 1108 Refrigerant Certification	1
Hvacr 1110 Introduction to Electricity and HVACR Controls	3
Hvacr 1161 Introduction to Sheet Metal	2
Hvacr 1181* Heating Principles	3
Hvacr 2180 Residential and Light Commercial Forced-Air Heating	3
Hvacr 2186* Hydronic Heating	3
Hvacr 2201* Residential Air Conditioning	3
Hvacr 2202* Commercial Air Conditioning	3
Hvacr 2220* Installation	3
Hvacr 2225* Troubleshooting Systems	3

* - course has a prerequisite

Program Electives 13

Select at least thirteen credits from HVACR course(s). Students may choose to focus elective coursework by focusing on Residential or Commercial Service by taking emphasis courses. Students may also choose general electives in any HVACR courses. (In addition to the courses listed above.)

Residential or Commercial Service Emphasis

Residential Service

Hvacr 2232 Energy Audits/Economics	2
Hvacr 2240 Load Calculations and Duct Design	5
Hvacr 2260 Heating and Air Conditioning Contracting	3

Commercial Service

Hvacr 2210 Commercial Refrigeration	5
Hvacr 2236 Central Cooling Plants	3
Hvacr 2250 System Balancing	3

General Education 18 to 22
(In addition to the courses listed above.)

Total Credits Required 64 to 68

Suggested Course Sequence (Full-Time Enrollment)

Please note: A student's readiness to perform college-level coursework is based on the student's placement test and/or ACT scores. Below 1000 level coursework may be required prior to the student taking courses in the suggested sequences.

First Semester (15 to 17 credits)

- Hvacr 1100 (3)
- Hvacr 1105 (3)
- Hvacr 1110 (3)
- Hvacr 1181 (3)
- General Education (3 to 5)

Second Semester (15 to 17 credits)

- Hvacr 1108 (1)
- Hvacr 1161 (2)
- Hvacr 2180 (3)
- Hvacr 2201 (3)
- Hvacr 2202 (3)
- General Education (3 to 5)

Summer Term (6 to 8 credits)

- Program Elective (3)
- General Education (3 to 5)

Third Semester (15 to 17 credits)

- Hvacr 2186 (3)
- Hvacr 2225 (3)
- Program Elective (3)
- Program Elective (3)
- General Education (3 to 5)

Fourth Semester (13 to 17 credits)

- Hvacr 2220 (3)
- Program Elective (4)
- General Education (3 to 5)
- General Education (3 to 5)

For more information:

If you are considering this program as an area of study, please contact the **Business & Technology Division** office at 630-942-2592.

Program web site:

<http://www.cod.edu/programs/hvacr/>

General Education 18 to 22

Each candidate for an Associate in Applied Science (A.A.S.) degree shall satisfactorily complete a minimum of 18 credits in General Education. (In addition to the courses listed below.)

Under the specified General Education headings below, the following courses are required:

Communication: 6 credits

Written: (3 credits) English 1101 or 1105

Oral: (3 credits) Speech 1100, 1120 or 1150

Physical and Life Sciences: 3 to 5 credits

At least one course with a laboratory component.

Mathematics: 3 to 5 credits

Select a minimum of 3 credits (1000 level or above).

Select Mathematics 1102, 1104 or 1120 only where required in the degree program. Only one from the following three courses may count toward overall degree requirement credit: Mathematics 1635, Psychology 2280 or Sociology 2205. Only one of the following courses may count toward overall degree credit: Mathematics 1428 or Mathematics 1431.

Humanities and Fine Arts: 3 credits

Social and Behavioral Sciences: 3 credits

Complete at least 2 credits from the list of courses in the Global/Multicultural Studies or Contemporary Life Skills Category (*Heating, Ventilation, Air Conditioning & Refrigeration 1110 in program requirements fulfills this requirement*)

TOTAL CREDITS FOR AAS DEGREE

64 to 68

Career Information HVACR.AAS.HVAC

Job Title(s): Heating and Air Conditioning Mechanics and Installers

Service Technician; HVAC Service Technician; HVAC Technician; HVAC Installer; HVAC Specialist ; HVAC Technician ; Air Conditioning Technician (AC Tech); HVAC Mechanic; HVAC Installer ; Mechanic, Facility Maintenance Mechanic, Industrial Maintenance Mechanic

For salary and wage information, please visit: www.onetonline.org

If you would like information regarding internships, resume development, interviewing and job search skills, please contact the Career Services Center

Phone: 630-942-2230

www.cod.edu/careerservices

Twitter: @codcareercenter

Related Occupations:

Electricians

Plumbers

Pipe Fitters and Steamfitters

Elevator Installers and Repairers

Automotive Master Mechanics

Automotive Specialty Technicians

Motorboat Mechanics and Service Technicians

Refrigeration Mechanics and Installers