## ASHRAE ASHRAE eLearning Course Catalog Self-Paced, Web-based, On-Demand Training



### See page 6 for GROUP DISCOUNTS

## Digital Learning for Your Team

Affordable, Convenient, Effective!

### 95+ Courses on a wide range of HVAC&R topics | 12-month subscription

#### **ASHRAE eLearning offers:**

- A professional development program that ensures you and your employees receive top-notch training and stay current with essential HVAC&R subjects.
- A convenient way of earning Professional Development Hours (PDHs) for certification and license renewals.
- Training at your fingertips, available 24/7 without the need for special software.
- Access to a certificate of completion, transcript, and performance reports for your employees.

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# **Course Packages**

Course Packages are a collection of individual courses that address specific subject areas at a lower cost per course.

#### Building Performance – (I-P)

PDHs: 10.0 Price: \$122 | ASHRAE Member: \$94

The following courses are included:

- Commissioning
- Integrated Design
- School of Hard Knocks: Controlling Moisture and Humidity in Buildings

#### System Design – (I-P)

PDHs: 5.0 Price: \$125 | ASHRAE Member: \$95

The following courses are included:

- Introduction to HVAC Design
- The Design Process
- HVAC System Selection Issues

#### Sustainability – (I-P)

PDHs: 32.5 Price: \$383 | ASHRAE Member: \$289

The following courses are included:

- Basics of Sustainable Design
- Energy Conservation
- LEED Guidance
- Indoor Environmental Quality
- Ventilation and IAQ
- AEDG Small Office Building Lighting
- AEDG Small Retail Buildings Design Strategies & Recommendations
- Achieving Zero-Energy Building Design

#### Loads and Modeling – (I-P)

PDHs: 3.5 Price: \$85 | ASHRAE Member: \$63

The following courses are included:

- Building Information Modeling
- Load Calculations

#### **NEW!** Fundamentals: HVAC Systems – (I-P)

PDHs: 20.0 Price: \$441 | ASHRAE Member: \$331

The following courses are included:

- Introduction to HVAC Design
- Introduction to HVAC Systems
- Indoor Environmental Conditions for Human Comfort
- Load Calculations
- Essentials of Controls
- Central Plants
- Humidity Control Design: Fundamentals, Loads and Equipment
- Ventilation and IAQ
- Psychrometrics
- Ethics for the Built Environment Professional Engineer

#### **NEW!** Fundamentals: HVAC Systems – (SI)

PDHs: 21.0 Price: \$441 | ASHRAE Member: \$331

The following courses are included:

- Introduction to HVAC Design
- Introduction to HVAC Systems
- Indoor Environmental Conditions for Human Comfort
- Load Calculations
- Essentials of Controls
- Central Plants
- Humidity Control Design: Fundamentals, Loads and Equipment
- Ventilation and IAQ
- Psychrometrics
- Ethics for the Built Environment Professional Engineer

#### **Components and Equipment – (I-P)**

PDHs: 11.5 Price: \$243 | ASHRAE Member: \$185

The following courses are included:

- Air-Conditioning System Components: Heat Transfer Equipment
- Air-Conditioning System Components: Pumps, Valves, Piping and Ductwork
- Building Control
- Introduction to Zones
- Single Zone Air Handlers and Unitary Equipment
- Multiple Zone Air Systems

#### System Essentials – (I-P)

PDHs: 9.5 Price: \$164 | ASHRAE Member: \$126

The following courses are included:

- Central Plants
- Air-and-Water Systems
- Controls
- Energy Conservation

#### Air Systems – (I-P)

PDHs: 2.5 Price: \$122 | ASHRAE Member: \$94

The following courses are included:

- Introduction to All-Air Systems
- Dual-Duct and Multizone All-Air Systems
- Simple Rooftop All-Air Systems

#### Hydronic Systems – (I-P)

PDHs: 11 Price: \$162 | ASHRAE Member: \$124

The following courses are included:

- All-Water Systems
- Hydronic Systems
- Hydronic Systems Architecture
- Controls

#### Special Systems – (I-P)

PDHs: 7.0 Price: \$81 | ASHRAE Member: \$62

The following courses are included:

- Special HVAC Systems
- Special Applications

#### DDC Controls – (I-P)

PDHs: 5.5 Price: \$132 | ASHRAE Member: \$100

#### The following courses are included:

- DDC Networks and Protocols
- DDC Specification, Installation and Commissioning
- DDC Introduction to Hardware and Software

#### DDC Controls – (SI)

PDHs: 9.0 Price: \$132 | ASHRAE Member: \$100

The following courses are included:

- DDC Introduction to Hardware and Software
- DDC Specification, Installation and Commissioning

#### HVAC Control Systems – (I-P)

PDHs: 33.5 Price: \$365 | ASHRAE Member: \$278

The following courses are included:

- Essentials of Controls
- Basics of Electricity
- Control Valves and Dampers
- Sensors and Auxiliary Devices
- Self-and System-Powered Controls
- Electric Controls
- Pneumatic Controls
- Control Diagrams and Sequences
- DDC Networks and Protocol

#### HVAC Control Systems – (SI)

PDHs: 23.5 Price: \$203 | ASHRAE Member: \$155

The following courses are included:

- Basics of Electricity
- Control Valves and Dampers
- Control Diagrams and Sequences
- DDC Introduction to Hardware and Software
- DDC Specification, Installation and Commissioning

#### **Data Center Design**

PDHs: 5.5 Price: \$162 | ASHRAE Member: \$124

The following courses are included:

- Computer Cooling Equipment
- Airflow, Equipment Placement and Heat Release
- Liquid Cooling and Facility Cooling Systems
- Building Facility and Chilled-Water Systems

#### AC and Refrigeration Principles – (I-P)

PDHs: 4.5 Price: \$133 | ASHRAE Member: \$100

The following courses are included:

- Psychrometrics
- Refrigeration System Parameters and Performance
- Compressors

#### Refrigerants – (SI)

PDHs: 11.0 Price: \$177 | Member Price: \$0

The following courses are included:

- Introduction to Refrigerants
- Refrigerant Selection
- Refrigerant Management
- Refrigerants Handling for Technicians Best Practices

## Standard 62.1: Ventilation for Acceptable Indoor Air Quality

PDHs: 10.1 Price: \$203 | ASHRAE Member: \$155

The following courses are included:

- Standard 62.1-2007: Natural Ventilation and Exhaust
- Standard 62.1-2013: Natural Ventilation Procedure
- Standard 62.1-2010: Ventilation Rate Procedure
- Standard 62.1-2007: Recirculating and Treating Indoor Air
- Standard 62.1-2007: Moisture and Mold Control

#### Standard 90.1: Energy Standard for Buildings – (I-P)

PDHs: 9.8 Price: \$162 | ASHRAE Member: \$124

The following courses are included:

- Standard 90.1-2004: Lighting General and Mandatory Provisions
- Standard 90.1-2004: Energy Cost Budget Method
- Using Standard 90.1-2010 to Meet LEED Requirements
- Architects: Overview of Mechanical Systems

### Standard 189.1-2011 – High Performing Green Buildings (Dual)

PDHs: 7.5

Price: \$122 | ASHRAE Member: \$94

The following courses are included:

- Standard 189.1-2011: Water, Sites, and Materials
- Standard 189.1-2011 for High-Performance Green Buildings: Energy Efficiency
- Standard 189.1-2011 for High-Performance Green Buildings: Indoor Environmental Quality

#### **Electrical System Design – (I-P)**

PDHs: 6.5 Price: \$203 | ASHRAE Member: \$155

#### The following courses are included:

- Power Distribution Applications
- Design for Building Electrical Systems
- Building Electrical Power Components
- The Electric Utility
- Direct Current Electrical Systems

"ASHRAE eLearning is a well put-together program. What makes the program unique is the immediate feedback system, which allows you to go back through the exercises and exams to help ensure your understanding of the topics covered. Most programs out there only provide you with a passing percentage once the course is over, not explaining what concepts you really understood."

—Huan Nguyen, Design Application Engineer, Climatec BTG

# Libraries

Libraries are collections of a variety of courses in a related topical area at a lower cost per course.

#### Advanced Technologies – (I-P)

PDHs: 38.0 Price: \$436 | ASHRAE Member: \$331

The following packages are included:

- Sustainability
- Data Center Design

#### **Control Systems – (I-P)**

PDHs: 43.5 Price: \$392 | ASHRAE Member: \$298

The following packages are included:

- HVAC Control Systems
- DDC Controls

#### Control Systems – (SI)

PDHs: 32.5 Price: \$227 | ASHRAE Member: \$173

The following packages are included:

- HVAC Control Systems
- DDC Controls

#### **Fundamentals**

PDHs: 47.0 Price: \$745 | ASHRAE Member: \$562 The following packages are included:

- Fundamentals: HVAC Systems
- Components and Equipment
- AC and Refrigeration Principles
- Refrigerants

#### HVAC Design and Operation – (I-P)

PDHs: 18.5 Price: \$266 | ASHRAE Member: \$201

The following packages are included:

- Building Performance
- System Design
- Loads and Modeling

#### HVAC Systems – (I-P)

PDHs: 36.0 Price: \$585 | ASHRAE Member: \$447

The following packages are included:

- System Essentials
- Air Systems
- Hydronic Systems
- Special Systems
- Electrical System Design

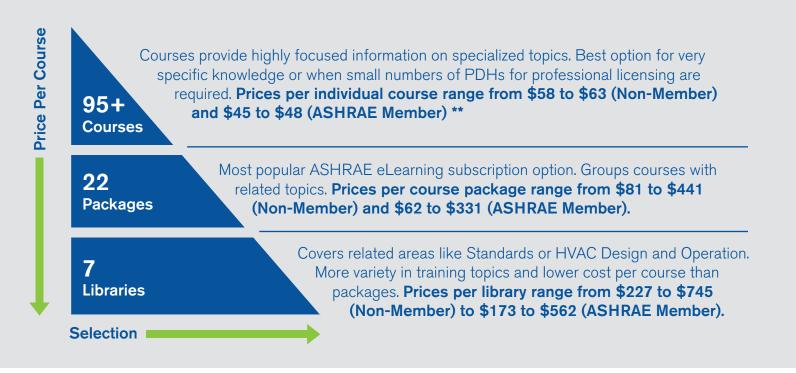
#### **Standards**

PDHs: 27.4 Price: \$389 | ASHRAE Member: \$298

The following packages are included:

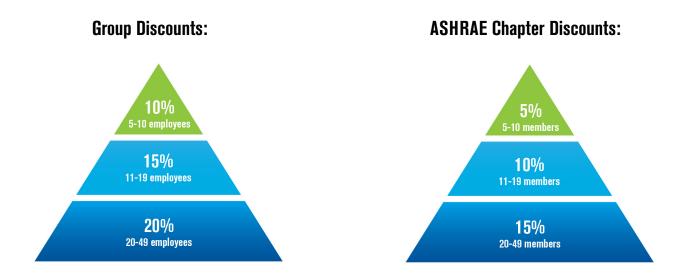
- Standard 62.1: Ventilation for Acceptable Indoor Air Quality
- Standard 90.1: Energy Standard for Buildings
- Standard 189.1-2011 High Performing Green Buildings





## ASHRAE eLearning offers group discounts on course packages that are customizable to fit your company's needs.

See the chart below for group discounts. Groups consisting of more than 50 individuals are eligible for a custom discount. To learn more about the eLearning process and to obtain a pricing estimate for your group enrollment, please contact ASHRAE eLearning at eLearning@ashrae.org or dial 678-539-1105.



\*ASHRAE is an approved Continuing Education provider for the American Institute of Architects (AIA) and a USGBC Education Partner. Continuing Education hours earned from ASHRAE courses may be applied toward renewal of state-licensed professionals and maintenance of LEED<sup>®</sup> professional credentials.

Continuing Education (CE) hours earned from ASHRAE courses may be applied toward maintenance of state-licensed professionals (Architects and Professional Engineers), LEED credentials, and ASHRAE Certifications.