



Colegio Oficial de Ingenieros Industriales de Madrid May 8-10, 2019

The greatest challenge facing engineering firms and building owners is maintaining a work force that understands the fundamentals of HVAC design and that is current with the application of new technologies.

To address this need, ASHRAE developed the HVAC Design: Level I – Essentials training. The course speeds the transition of recent university graduates to effective practitioners that are able to meet real-world design challenges and acquaints experienced engineers with technologies to minimize energy consumption, meet current standards, and improve building occupant comfort.

This May, ASHRAE will present **HVAC Design: Level I – Essentials** in Spain for the first time. This three day course will take place in Madrid, May 8-10, through the organization of the Spain and Portuguese Chapter of ASHRAE.

**IMPORTANT NOTE:
COURSE PRESENTATION WILL BE IN ENGLISH!**

While the fundamentals of good design practice are universal, the course has been adapted to meet the specific needs of European designers, whether they practice only in Europe or in areas where US standards are also applied.

The training is supported through sponsorship of Daikin AC Spain.

ORGANIZATION:  **ASHRAE** Spain Chapter  **ASHRAE** Region XIV

SPONSORSHIP: 

HVAC Design: Level I – Essentials

To provide the global view, ASHRAE has assembled an international team of instructors, each well known for their design experience and instructional capability. Attendee interaction is encouraged through inclusion of design examples, enabling the instructor team to share personal insights along with the application of the fundamentals.



Charlie Henck, P.E., Fellow/Life Member ASHRAE, CEM, LEED® AP, both designed and renovated healthcare systems, office buildings, laboratories, data centers, and more. Henck has served on many ASHRAE committees and acted as past Director and Regional Chair (DRC) for Region III. He is the current chair of the Professional Development Committee (PDC) and secretary for Technical Committee (TC) 9.1, Large Building Air-Conditioning Systems.

Henck wrote, edited, and revised portions of ASHRAE Laboratory Design Guide, Second Edition, with a focus on air treatment, particularly the requirements for allowable concentration limits and the technologies available to achieve acceptable levels. Henck is also actively involved in revising portions of ASHRAE Handbook—HVAC Systems and Equipment.



Rafael Úrculo, Member ASHRAE, has been President of the Spanish Association of Engineering and Installation Consulting Engineers (AEDICI), fostering collaboration with other associations in the field. A consultant with a Master of Science from the University of Connecticut, Úrculo has worked in building services and as an associate professor at the School of Architecture at the Polytechnic University of Madrid. CIBSE (Chartered Institution for Building Services. UK).

Members of design teams, facility staff, and suppliers of equipment and services will all benefit from this one of a kind educational offering. The instructors build on ASHRAE Handbooks, ASHRAE standards, ASHRAE Research and their own experience to enable attendees to return to work and put their newly gained knowledge to immediate use.

Upon completion of the training, all attendees receive a certificate of attendance. ASHRAE is an approved Continuing Education provider for the American Institute of Architects (AIA) and a USGBC Education Partner. Professional Development hours earned from ASHRAE courses, including HVAC Design Level I, may be applied towards many professional certification programs, including ASHRAE and for maintenance of LEED professional credentials.

Attendees will also have the opportunity to take an online short quiz on the content presented in the course. Answering 75% or more of the questions correctly will earn the attendee a Certificate of Successful Completion: HVAC Design: Level I - Essentials.

HVAC Design: Level I – Essentials is an excellent preparatory resource to earn one of ASHRAE's seven professional certifications, the Society's highest recognition of professional development achievement at www.ashrae.org/certification.

HVAC Design: Level I – Essentials

8-9 de mayo: 9:00h – 18h ; 10 de mayo: 9:00h – 15h

Course Topics Include

- Load Calculations
- Psychrometrics
- HVAC Systems, Equipment and Components
- Design Process System Selection
- Basic Design of Air Systems
- Codes, Standards and Guidelines

Course Objectives

- Discover how to calculate heating and cooling loads
- Learn the basics of psychrometrics
- Evaluate building automation systems and controls
- Understand hydronic system design and air system design
- Select HVAC equipment and systems that meet needs of specific systems
- Describe standard practices and design processes used by HVAC industry
- Explain the differences and advantages of certain HVAC systems for specific applications

Who Should Attend

- Engineers who are recent university or technical college graduates
- Engineers assigned new design responsibilities
- Engineers who want to ensure they are up to date with current technology
- Architects who want an in-depth understanding of HVAC design
- Facilities managers involved in new construction or major renovation projects
- Suppliers and sales engineers who need to assist clients with design challenges
- Technicians who would like to gain thorough design knowledge to advance their careers
- Construction project managers involved with mechanical systems

Course Registration

Registration includes course admittance, course materials, publications, break refreshments, and lunches. Spain and Portuguese Chapter Members Registration Fee: \$600 US.

Registration for special Spain and Portugal pricing must be received by 20 March 2019 before registration is opened to other European members at a member price of \$789 US. (Standard ASHRAE member registration fee when presented in US is \$1009).

To register, complete the registration form which accompanied this message or contact:
ASHRAE Headquarter: edu@ashrae.org / +1 678-500-3917
ASHRAE Brussels Office: brusselsoffice@ashrae.org / +32 2 234 6340

Non ASHRAE members can register at the price of \$925 US. If three participants of the same company register to the course can benefit of the special price of \$750 US per person.

Registration includes course admittance, course materials, break refreshments, and lunches.

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Training Materials

Course materials used in the training will be sent electronically as PDFs to all registered attendees in advance of the course. Attendees are encouraged to bring their laptops or tablets to access course materials during the training, and if they wish to immediately take the course quiz to earn a Certificate of Successful Course Completion. Attendees may also print materials in advance to bring to the training.

Location of Training

Colegio Oficial de Ingenieros Industriales de Madrid

Sala 3.1

Calle Hernán Cortés N°13

28004 Madrid



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Ingenieros Industriales
de Madrid

What others are saying who have attended

“This is years of experience and knowledge condensed into a priceless three-day event. It tackles most of the common issues you come across as a design engineer, and the instructors really go in-depth with practical examples from their work. I am very confident that I will have a great use for everything learned and highly recommend the course to someone just starting out as a HVAC engineer. Even if you’ve been in the industry for some time, this experience will be important.” – Kannan S. – Syracuse, USA.

“This training has been a wonderful learning advancement to my development as a senior engineer. I currently am involved in design and supervision of large office, residential and commercial spaces. The case studies have provided useful information and the guide to using ASHRAE Standards 62.1, 55, 189.1 and 15 have been good. I would recommend this course to experienced engineers and using ASHRAE development to strengthening your career.” - Jeevan T. – Muscat, Oman.

“I really enjoyed the class, particularly the real-world examples and experience the instructors brought to the material. I definitely feel more confident in my abilities and knowledge than I did coming in.” – Jason H. – New Mexico, USA.

“Meaningful to all owner, landlord, and facilities Eng. /Mgr. to attend the training to understand detail of HVAC design and selection of the equipment to a particular building or existing building.” – Mohd B. – Singapore.

“HVAC Design Level I was an excellent course covering the complete range of HVAC-related topics. Sufficient detail was provided for all individuals, regardless of their background, to have an excellent basic knowledge of HVAC issues, solutions, processes, systems, components, and available options. This course was time and money well spent and will be very useful to me going forward in my work.” Jeffrey T. – Ontario, Canada.

“This training is really a good opportunity for those entering into the HVAC industry. Because in the University many equations and topics are discussed but this training shows the sequence of activities related to the design of the HVAC system.” – Mohammad F. – Dhaka, Bangladesh.