# First Time in Europe // Special Pricing / Limited Time Offer

# ASHRAE HVAC Design: Level I - Essentials

March 6-8, 2019 - Lisbon


## In-depth instruction blending US and European design practices

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 March, ASHRAE will present HVAC Design: Level I – Essentials in Europe for the first time. This three day course will take place in Lisbon, March 6-8, through the organization of the Portugal and Spain Chapters of ASHRAE. 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 were US standards are also applied.

The training is supported through sponsorship of Carrier Portugal.

Carrier
United Technologies
turn to the experts

**ALSO AS THE INAUGURAL EVENT IN EUROPE, SPECIAL PRICING IS OFFERED THROUGH FEBRUARY 5 TO MEMBERS OF THE PORTUGAL AND SPAIN CHAPTERS.**

**COURSE PRESENTATION IN ENGLISH**

**TO REGISTER, COMPLETE THE REGISTRATION FORM WHICH ACCOMPANIED THIS MESSAGE. OR CONTACT**

ASHRAE Headquarters: edu@ashrae.org / +1 678-500-3917
ASHRAE Brussels Office: Brusselsoffice@ashrae.org / +32 (0) 2 234 6340

## What is not taught at university & what you need to know to be current

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 though 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*.

**José Luís Alexandre, Ph.D., Member ASHRAE,** currently works at the Departamento de Engenharia Mecânica, University of Porto. Dr. Alexandre does research in Mechanical Engineering, Environmental Engineering and Industrial Engineering. His most recent publication is 'Energy Certification Label vs. Passive Discomfort Index for existing dwellings'.

**Rafael Úrculo, Member ASHRAE,** has assumed the presidency 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.

## Earn industry recognition from ASHRAE

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. Information at www.ashrae.org/certification.

## HVAC Design: Level I – Essentials

**6-8 March 2019 — 09:00 hrs – 18:00 hrs**

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

## SPECIAL INTRODUCTORY PRICING FOR SPAIN AND PORTUGAL CHAPTERS

Training supported through sponsorship of Carrier Portugal to enable reduced pricing for this Lisbon event. Also special introductory pricing for first European presentation and discounted for Portugal and Spain Chapter organizational support.

Registration includes course admittance, course materials, publications, break refreshments, and lunches.
**Portugal and Spain Chapters Members Registration Fee:** $600 US

**REGISTRATION FOR SPECIAL PORTUGAL/SPAIN PRICING MUST BE RECEIVED BY 5 FEBRUARY 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 $1009.)

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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**

Portuguese Engineers Association (Ordem dos Engenheiros), Avenida António Augusto de Aguiar, Nº 3-D, 1069-030 – Lisbon

**Hotel Recommendation**

Hotel Fénix Urban, Av. António Augusto de Aguiar 14, 1050-016, Lisboa, Portugal (Phone: +351 21 351 5000)

## What engineers are saying about HVAC Design: Level I – Essentials

The ASHRAE course has been presented around the world but not yet in Europe. Here's what others are saying who have attended:

"This course was a very well developed session. The instructors presented valid materials directly related to HVAC systems design." – Calvin T. – Houston, USA

"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 HAVC engineer. Even if you've been in the industry for some time, this experience will be important." – Kannan S. – Syracuse, USA

"The training was very useful as a lot of important topics were discussed like heat load calculation which is a major component for any design." – Hamdah M. – Dubai, UAE

"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

"Extremely helpful for all design and sales engineers. Good investment of time and resources." - Salman S. – Dubai, UAE

"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

"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

"It was good, especially as non-HVAC Engineers. As I work for MEP consultant, it is a good thing to know all the basic and fundamental for HVAC. The class introduced me to all trivial components in HVAC systems. The instructor provided all the participants with good and easy to use material." – Frans D. – Jakarta, Indonesia

"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 should be required for anyone new to the HVAC industry. An excellent refresher for veterans." Fazaad A. – New Jersey, USA

"This training course is very interesting. It helps me to understand a whole picture of HVAC designing by all kinds of different cases. The instructors are very experienced in this field. It's worthy joining the training." – Bai Y. – Hong Kong

“As an electrical engineer, this course provides a great overview of HVAC design and what mechanical engineers do. I have greater confidence now with communicating with mechanical engineers and the potential to question their designs.” – Sean F. – Perth, Australia

“The HVAC Design: Level I course helped me, as a recent college graduate, understand the HVAC industry better as a whole. The course material is applicable in all reaches of the industry and even helped me, as a sales engineer, grasp my place in the industry and how I can fulfill my role better.” Alex T.—Atlanta, USA

“This training has broadening my knowledge on HVAC&R design and applications. I have better understanding of the use of fundamentals & psychrometric in design, operation, maintenance and applications. – Ogunsuyi R. - Lagos, Nigeria

“This course gave me the background knowledge on HVAC system design that I never had in college. It gives the reasoning behind the design choices we see in the industry and how a system comes to be. This course excited me about delving into more design work in my career!” Mega R. – Florida, USA

“The course wraps most concepts and applications of the HVAC industry in a brief yet reasonably detailed way. It provides a better view of the different aspects of the industry for the recently graduated students.” – Mahmood A. – Dubai, UAE

“One of the most effective training programs I have attended with the presence of the academic experience and field experience in the same training covering the topic end-to-end. The examples from regional case studies added value to the whole understanding of the topic.” – Mohamed El M. – Kuwait

“It was a great experience. I think it will help me a lot in future projects.” – Anwar K.-Dhaka, Bangladesh

“The course helped me to understand deeply the concept of designs and application. It was worth the wait.” – Ken J., Philippines

“Very insightful and interactive. Presentation was interesting and kept me engaged.” -- Ahmad A. — Ontario, Canada

“This was a good training course that covered the main parts of designing HVAC systems, everything from the fundamentals, designing to commissioning the systems after they are installed.” – Cody S. (Facilities Engineer) – Fort Worth, USA

“The level of expertise and the wealth of knowledge from the instructors is unparalleled. The information covered is practical and up to date. Being new to the HVAC industry, I really feel like I am leaving with understanding and support from the ASHRAE Learning Institute.” Max B. – Vancouver, Canada,

“This course is a great introduction to HVAC essentials! It is invaluable regardless of experience. Had I have taken it when I first started, it would have served as an excellent introduction to the world of HVAC. Since I have experience, the course served as a great way to practice and solidify what I have already learned on the job! 5/5—would recommend to anyone who works with HVAC.” -- Louis K. – Syracuse, USA

“High quality class. Very comprehensive and very competent and knowledgeable instructors that have great interaction with the class. I would recommend this class to others in my company and industry.” Kurtis S. – Oakland, USA

“Everything you need to know but weren’t taught in engineering school is covered in this course.” Clayton C. – Delaware USA

“The trainers mentioned that as design engineers we are selling our intelligence/skills rather than a physical object. There is a lack of formal training related to the HVAC industry outside of a classroom. The insight given from the trainers and their wealth of experience will prove invaluable during my career.” Terry T. –Missouri, USA

**For More Information**

If you have questions, contact ASHRAE Atlanta or ASHRAE Brussels:

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**About ASHRAE**

ASHRAE is an individual membership organization founded in 1894. It has 57,000 members residing in more than 130 nations. Through the active participation of thousands of volunteers, ASHRAE writes standards, sponsors building research, publishes design and application guidance, and provides training. Some 180 chapters of ASHRAE help make the Society's resources available to all practitioners with ten chapters or sections serving members and the industry in Europe.

**SPECIAL PRICING TO PORTUGAL AND SPAIN CHAPTERS IS A TIME LIMITED OFFER. ON 6 FEBRUARY REGISTRATION WILL BE OPENED TO OTHER ASHRAE EUROPEAN MEMBERS.**