



3-DAY COURSE SYLLABUS

Commissioning of HVAC Systems

HVBE05-ONL26 · ONLINE (ZOOM)

As energy costs rise and concerns about indoor air quality grow, it is vital that new or upgraded HVAC systems run efficiently and economically. Reliability is key to reducing maintenance costs, and while system design is important, even the best-designed systems require a well-planned commissioning process to ensure performance. This course covers the commissioning of HVAC systems. Participants will learn about the operating principles of various HVAC systems, including all-air, air-water, and all-water configurations. The course introduces the testing and balancing (T&B) procedures of air and water systems, and teaches participants how to plan, implement, verify, and document the entire commissioning process.

CEUS / PDHS	INSTRUCTOR	DAYS	PRICE	WORKSHOPS	SKILL LEVEL	COURSE CODE
1.7 / 17	Dr. Mohamed Hamed, PhD, P.Eng., FEC	3	\$1,495.00 CAD	None	Beginner	HVBE05-ONL26

DESCRIPTION

As energy costs rise and concerns about indoor air quality grow, it is vital that new or upgraded HVAC systems run efficiently and economically. Reliability is key to reducing maintenance costs, and while system design is important, even the best-designed systems require a well-planned commissioning process to ensure performance.

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It also explores the roles of key stakeholders – the owner, designers, contractors, operators, and maintainers. Case studies illustrating the benefits of commissioning, along with its connection to troubleshooting, will be presented, with opportunities for participants to discuss their own facility case studies.

WHAT YOU WILL LEARN

- Gain a solid understanding of HVAC system structure and components
- Learn how to plan and implement testing, balancing, and commissioning
- Identify challenges in the commissioning process and how to communicate system deficiencies
- Understand the relationship between owners, equipment suppliers, manufacturers, and consulting engineers

COURSE OUTLINE

- 01 Structure and Main Components of All-Air, All-Water, and Air-Water HVAC Systems
- 02 Testing and Balancing (T&B) of HVAC Systems
- 03 The Commissioning Process
- 04 Program and Pre-Design Phase Commissioning
- 05 Design Phase Commissioning
- 06 Construction Phase Commissioning
- 07 Acceptance Phase Commissioning
- 08 Post-Acceptance Commissioning
- 09 Case Studies: Commissioning and Troubleshooting

WHO SHOULD ATTEND

- Design and project engineers
- Technologists
- Plant and facility engineers
- Consultants
- Mechanical engineers and technologists
- Maintenance and operation personnel
- Other technical personnel needing to develop/upgrade/refresh their knowledge of HVAC systems

REGISTER NOW →

Customize this course — We can offer a customized version of this course, in terms of duration and content, upon request.

REQUEST CUSTOMIZATION

DAILY SCHEDULE

3-Day Course Schedule

START

10:00 AM EST

END

5:00 PM EST

FORMAT

Live Online

One-hour lunch break each day, plus refreshment and networking breaks each morning and afternoon session.

DAY	TOPIC	SUBTOPICS
DAY I	Structure and Main Components of Various HVAC Systems	· All-air systems · All-water systems · Air-water systems
	Testing and Balancing (T&B)	· Air system testing and balancing · Water system testing and balancing
DAY II	The Commissioning Process	· Steps in commissioning · Documentation and verification requirements
	Program and Pre-Design Phase	· Establishing goals · Owner's project requirements · Pre-design planning
	Design Phase Commissioning	· Design review · Coordination with stakeholders
DAY III	Construction Phase Commissioning	· On-site inspections · Performance verification
	Acceptance Phase Commissioning	· Functional performance testing · Deficiency resolution
	Post-Acceptance Commissioning	· Seasonal testing · Ongoing monitoring and adjustments
	Case Studies	· Commissioning benefits · Troubleshooting examples · Participant facility case discussions