TECHNICAL
EDUCATION
ACADEMY

School of Engineering

COURSE PROGRAMME

000129

MECH002 - Fundamentals and Practice of HVAC Systems

This course exposes participants to an overview of Heating, Ventilation and Air Conditioning (HVAC) Systems used in industrial environments.



Learn from the Best in the Business!

Course overview

Duration: 5 days / 40 hours · Intermediate level

Why take this course

This course exposes participants to an overview of Heating, Ventilation and Air Conditioning (HVAC) Systems used in industrial environments. HVAC systems provide comfortable living conditions. They are key piece of the infrastructure required to keep positive pressure within any building housing people. In an industrial setting they also must have detection systems to sense associated hazardous which could lead to potentially dangerous situations.

HVAC systems contain inherent and potential dangers which must make operations, monitoring and proper handling of maintenance extremely important. Participants of this course will gain an understanding of the major components and associated safety systems. Important elements such as heat transfer systems, ventilation and air conditioning operations will also be covered to provide participants with a complete understanding of the underpinnings of these systems.

The course commences with a review of psychrometric charts and then examines the factors that influence design choices, indoor air quality, load calculations and heating/ventilation and air-conditioning systems. Numerous tips and tricks taught throughout the course make it very practical and topical to your everyday applications.

Who it is for and how it helps

Facility managers and engineers, mechanical engineers, maintenance and operations personnel, technicians and technologists.

What you will learn

- Maintain and troubleshoot HVAC systems
- Understand and apply the psychrometic chart
- Design for good air quality
- Perform basic load calculations
- Initiate an effective inspection and maintenance program
- Reduce forced outages and prevent serious damage to HVAC equipment
- Provide an overview of the legislative requirements plus the essential steps and responsibilities for the maintenance and repair of HVAC systems
- Outline the technologies available for the efficient energy management using HVAC systems

Curriculum

Modules 01–02

01 HVAC Systems

- Introduction to HVAC
- Psychrometry
- HVAC thermodynamics
- Types of HVAC systems
- Heating
- Ventilation
- Requirements of Comfort Air Conditioning
- Variable Air Volume (VAV) Systems
- Duct design, Air Flow and its Distribution
- Insulation of Air-Conditioning Systems and Air-Conditioning Equipment
- Heating and Cooling Load Calculation Procedure
- Refrigeration

02 HVAC Operation

- Operation Objectives
- Packaged heating & air conditioning systems
- HVAC safety systems
- Safety, health and environment
- Installation, Commissioning, Operation, Testing and Maintenance
- Fault Finding and Troubleshooting and Green House Effect and Future Refrigerants

Programme instructor



Boris Koryagin

Борис Корягин является высококвалифицированным специалистом с более чем 30-летним опытом работы в механике и инженерии в нефтегазовой отрасли. Его карьерный путь включает широкий спектр должностей, от ведущего инженера-механика до консультанта и инструктора.

Профессиональные успехи и достижения:

Борис начал свою карьеру в 1999 году и с тех пор накопил богатый опыт в различных областях. Он занимался проектированием и анализом механического оборудования, обеспечивал техническую поддержку и обслуживание, координировал деятельность субподрядчиков и управлял проектами. В частности, он принимал участие в проектной документации для крупных нефтегазовых проектов в России, Туркменистане и Казахстане, обеспечивал соответствие международным и местным стандартам и успешно адаптировал проектную документацию.
На протяжении своей карьеры Борис занимался обучением и разработкой учебных программ. Он разработал и провел множество курсов по механическим дисциплинам, обучая студентов и специалистов основам работы с механическим оборудованием, включая статическое и вращающееся оборудование, а также дисциплины, связанные с бурением и контролем скважин. Борис также активно участвовал в управлении проектами, обеспечивая координацию деятельности субподрядчиков и взаимодействие с проектными группами. Он успешно руководил проектами по модернизации газоочистных заводов и строительству региональных нефтеперерабатывающих заводов, разрабатывал специальные технические условия для согласования российских и международных стандартов, проводил инженерные изыскания и управление интерфейсами.

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Participant ratings

Programme evaluation based on participant feedback

Overall programme rating — 4.7 / 5

Clarity of learning objectives	**4.7 / 5**
Confidence in applying knowledge and skills	**4.5 / 5**
Achievement of learning objectives	**4.5 / 5**
Relevance of content to job tasks	**4.1 / 5**
Suitability of difficulty for the level of preparation	**4.2 / 5**
Increase in knowledge	**4.3 / 5**
Skills development	**4.2 / 5**
Willingness to recommend the programme to colleagues	**4.3 / 5**

19 responses

Joining the programme

Contact the Academy and quote course code 000129 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

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