

HVAC Sys. Design Training Course (نظام التكييف والتبريد)

Course Overview:

Being able to understand, design and sizing entire HVAC systems either residential or commercial buildings. Also you will able to use the common software and applying the standards on the practical projects.

HVAC Training Course Outlines

1. Introduction to HVAC Systems
2. HVAC and psychometric basics and its processes.
3. Cooling Load Calculations considering the following;
 - 3.1. Climate design information
 - 3.2. Comfort zone and indoor air quality
 - 3.3. Zoning and surveying
 - 3.4. Building architecture
 - 3.5. Software (HAP).
4. HVAC Systems "Air Conditioning types"
 - 4.1. Direct Expansion System (DX)
 - 4.1.1. Package Units (Windows, Roof top Central package, Vertical Central package)
 - 4.1.2. Split units (Central split, High wall, Floor and ceiling, Cassette, Ceiling Concealed Ducted "CCD", VRF system)
 - 4.2. Chilled Water System (Fan Coil Unit "FCU" & Air Handling Unit "AHU")
5. Components of AHU & FCU
6. Sizing and selection of FCU & AHU from catalogues
7. Ventilation System Calculations
8. Types of ventilation fans (Axial Flow, Mixed Flow Fan & Centrifugal Fan)
10. Air terminal outlets (Types, Shapes, Catalogues, etc.)
11. Air Side (Duct System)
 - a. Duct types and material
 - b. Duct Sizing
 - c. Standard fittings from SMACNA
 - d. Accessories (Fire dampers, Volume dampers, etc.)
 - e. Duct Tests
12. Water Side (Chilled Water System)
 - a. Chillers Types and selection
 - b. Chillers Hook ups and valves
 - c. Chilled water Pumps (Calculation & Selection)
 - d. Chilled water piping size
13. HVAC System Relevant Issues;
 - a. Engineering responsibilities (Coordination, drawings and project documents required)
 - b. Electrical considerations
 - c. Control systems and instrumentation

• Project Using AutoCAD