

Course Overview:

Most industrial production processes need cooling waters to operate efficiently and safely. Refineries, steel mills, petrochemical manufacturing plants, electric utilities and paper mills all rely heavily on equipment or processes that require efficient temperature control. Cooling water systems control these temperatures by transferring heat from hot process fluids into cooling water. As this happens, the cooling water itself gets hot. Before it can be used again, it must either be cooled or replaced by a fresh supply of cool water.

Course Objective:

Design and operation of cooling towers with water treatment – cleaning, disinfection and corrosion control.

Course Outline:

- INTRODUCTION
- DESIGN AND OPERATION OF COOLING TOWERS
- WATER TREATMENT – CLEANING, DISINFECTION AND CORROSION CONTROL
- WATER SYSTEMS
- HEATING SYSTEMS, FURNACES, AND BOILERS
- REFRIGERANTS, REFRIGERATION CYCLES, AND REFRIGERATION
- SYSTEMS
- REFRIGERATION SYSTEMS: RECIPROCATING, ROTARY, SCROLL
- HEAT PUMPS, HEAT RECOVERY, GAS COOLING, AND COGENERATION
- SYSTEMS
- AIR SYSTEMS: COMPONENTS—FANS, COILS, FILTERS, AND HUMIDIFIERS
- AIR SYSTEMS: EQUIPMENT—AIR-HANDLING UNITS AND PACKAGED
- AIR DUCT DESIGN
- AIR SYSTEMS: SPACE AIR DIFFUSION
- AIR SYSTEMS: BASICS AND CONSTANT-VOLUME SYSTEMS
- AIR SYSTEMS: MINIMUM VENTILATION AND VAV SYSTEM CONTROLS
- IMPROVING INDOOR AIR QUALITY
- SYSTEM CLASSIFICATION, SELECTION, AND INDIVIDUAL SYSTEMS
- EVAPORATIVE COOLING SYSTEMS AND EVAPORATIVE COOLERS

Who Should Attend:

Mechanical and Electrical engineers working in the air conditioning and maintenance of different types of air conditioning, those are available in the market.

Training Language:

EN / AR

Training Methodology:

- Presentation & Slides
- Audio Visual Aids
- Interactive Discussion
- Participatory Exercise
- Action Learning
- Class Activities
- Case Studies
- Workshops
- Simulation