OFFICE OF CONSULTATION & TRAINING
College of Engineering and Petroleum

Kuwait University- College of Engineering & Petroleum - Mechanical Engineering – OCT

ME0022- District Cooling Systems: Design, Operation, and Kuwait-Specific Applications

Contact

24983474

24983523

24983524

tpd.occd@eng.ku.edu.kw

Course objectives

The primary objective of this training course is to equip participants with a comprehensive understanding of district cooling systems, from fundamental principles to advanced operational strategies, with a specific focus on applications within Kuwait's unique arid climate. The course aims to provide engineers, project managers, and technical professionals with the knowledge and skills necessary to design, implement, and manage efficient and sustainable district cooling networks. Key learning outcomes include mastering load assessment and hydraulic design tailored to high-temperature environments, evaluating economic feasibility and contract models, overseeing construction and commissioning processes, and implementing best practices in operation and maintenance. Additionally, the course seeks to address Kuwait-specific operational challenges and explore future trends in sustainability, enabling attendees to develop actionable strategies for enhancing energy efficiency and system reliability in local contexts.

Training course duration:

Five Days

Timing:

8 a.m. - 2 p.m. Daily

Course outline :

Day one topics:

Fundamentals of District Cooling and The Kuwaiti Context:
- Introduction and Course Overview
- Why District Cooling?
- Core Components of a District Cooling System

OFFICE OF CONSULTATION & TRAINING
College of Engineering and Petroleum

Kuwait University- College of Engineering & Petroleum - Mechanical Engineering – OCT

ME0022- District Cooling Systems: Design, Operation, and Kuwait-Specific Applications

Day two topics:

Design and Engineering for Arid Climates:
• Load Assessment and Forecasting
• Hydraulic and Piping System Design
• Technology Selection for Peak Efficiency

Day three topics:

Procurement, Contracts, and Economic Evaluation:
• Project Delivery and Contract Models
• Feasibility and Lifecycle Cost Analysis
• Metering, Billing, and Revenue Collection.

Day Four topics:

Construction, Commissioning, and Operations:
• Construction Oversight and Quality Assurance
• Commissioning and Performance Testing
• Operations and Maintenance Best Practices

Day Five topics:

Kuwait-Specific Challenges, Future Trends, and Course Conclusion:
• Operational Challenges in Kuwait
• Future Trends and Sustainability
• Course Summary, Recap, and Action Plan

OFFICE OF CONSULTATION & TRAINING
College of Engineering and Petroleum

Kuwait University- College of Engineering & Petroleum - Mechanical Engineering – OCT

ME0022- District Cooling Systems: Design, Operation, and Kuwait-Specific Applications

Instructor:

Dr. Adel Alshayji
Mechanical Engineering
College of Engineering & petroleum
Kuwait University