AIR CONDITIONING I

1. Introduction to Energy, Heat Transfer and Measurement

A. Principles of Energy
B. Conduction, Convection and Radiation
C. Temperature and Pressure
D. States of Matter
E. Sensible and Latent Heat

2. Introduction to the Conditioned Space

A. The Conditioned Space
B. Heat Gain and Heat Loss
C. Temperature
D. Moisture Content
E. Heat Content

3. Introduction to the Basic Mechanical Refrigeration Cycle

A. Safety and Personal Protective Equipment (PPE)
B. Overview of System
C. Compressors, Coils and Metering Devices
D. Accessories
E. Tools and Equipment
F. Refrigerants and Oils
G. System Charging, Evacuating, Recovery and Recycle

4. Introduction to Applied Electricity

A. Safety and Personal Protective Equipment (PPE)
B. Voltage, Current and Resistance
C. Shorts, Grounds and Open Circuits
D. Motors, Relays, Capacitors and Transformers
E. Thermostats
F. Electrical Symbols and Schematics
G. Testing and Measuring Electrical Properties

AIRCONDITIONING 2

1. Review

A. Pressure/temperature Chart
B. Change of State
C. Mechanical Refrigeration Cycle
D. Applied Electricity
    a. Using Test Meters
    b. Work on Electric Trainers
E. Demonstrate Equipment
F. Safety

2. Brazing and Working with Copper

A. Swedging Copper Tubing
B. Theory and Safety Brazing
C. Brazing Projects

3. Laboratory Projects

A. Build a Working System
B. Start-up, Charge and Recovery
C. Common Symptoms and Troubleshooting
D. Component Replacement Projects