

# HVAC / Chiller Operating Engineer Second Class

## Qualifications

- Minimum age - 19
  - Education - High School Diploma, GED or Equivalent.
  - Experience 1 year
    - Note: One year time in grade as a HVAC / Chiller Operating Engineer**
  - Minimum time in previous grade - One year
  - Maximum Refrigeration or Air Conditioning (Unsupervised) 100 ton
  - Must have a CFC Certificate
  - **No conversion in this classification test only**
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## Recommended Books and Readings

HVAC-Heating, Ventilating and Air Conditioning Third Edition American Technical Publishers  
Industrial Maintenance American Technical Publishing  
Low Pressure Boilers American Technical Publishers

## Curriculum at the Minimum:

- Mathematics
- Safety
- Thermodynamics and Heat
- Combustion and Fuels
- Electricity
- Psychometrics
- Forced Air Heating System
- Refrigeration Principles
- Management of Refrigerants and Refrigeration Systems
- Pressure-Enthalpy Diagrams
- Compression Systems –Low Side
- Compression System- High Side
- Condition Systems
- Heat Pumps
- Control Systems
- Heating and Cooling Loads
- Load Calculations
- HVAC Unit Selection
- Forced Air System Design
- Hydronic System Design
- Distribution System Balance
- Introduction to Absorption Chillers
- Maintenance Principles
- Service and Repair Principles

- Electronic and Programmable Controllers
- Boiler Systems
- Mechanical Systems
- Fluid Power Systems
- Troubleshooting