<table>
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<th>PROGRAM YEAR</th>
<th>SEMESTER</th>
<th>CURRICULUM</th>
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| 1st Year     | 1st Semester | 1. OSHA Certification  
2. Use and Care of Tools  
3. Basic Refrigeration and Basic Science  
4. Basic Related Trade Math |
|              | 2nd Semester | 1. First Aid & CPR, EPA Section 608  
2. Basic Rigging and Basic Electrical Fundamentals  
3. Soldering and Brazing  
4. HVAC Preventative Maintenance procedures |
| 2nd Year     | 1st Semester | 1. R-410A Safety & Training, Pressure Enthalpy, Metering Devices  
2. Water cooled and Evaporative condensers, Cooling Towers.  
3. Fundamentals of Electricity, Ohms Law, Electrical Diagrams  
4. Electrical Conductors, hands on wiring projects, Multimeters. |
|              | 2nd Semester | 1. TXV Trouble shooting, System Diagnostics, Capacity Control.  
2. Semi-hermetic Compressors, Tare-Down & Repair, Heat Pumps.  
4. Motor Controls, Capacitors, Transformers, Circuit Brakers. |
| 3rd Year     | 1st Semester | 1. Basic HVAC Controls, Symbols, Diagrams, Components  
2. High & Low Voltage Wiring, 3-phase Motors, Pump Down Circuits.  
3. Controlling Head Pressure, System Accessories, Valves  
4. Hot Gas Bypass, Bearings, Compressors & Heat Exchangers |
|              | 2nd Semester | 1. Pressure controls, Lead/ Lag Systems, Smoke Detectors.  
2. Basic Pneumatic Controls, Dampers, Controllers, Thermostats.  
3. VRF Systems, Medium & Low Temp, Refrigeration, Ice Machines  
| 4th Year     | 1st Semester | 1. Electronic Components, Wiring, Speed Control & Safeties, Alarms  
2. VFD Terminology, Building Automation, Programming Parameters  
3. Pumps & Chiller Maintenance, Pump Alignment, Centrifugal Theory  
4. Centrifugal & Screw Compressors, Chilled Water Flow |
|              | 2nd Semester | 1. Start, Test & Balance; Instruments; Psycometrics, Hydronic Systems  
2. Indoor Air Quality, Air Distribution, Fluid Flow, Automatic Controls  
3. Digital Controls, Sequence of Operation, Thermistors, Transducers  
| 5th Year     | 1st Semester | 1. Industrial Motor Controls, 3-phase Transformers, Magnetism  
2. DC Power Supplies, Rectifiers, Diodes, Triacs, Digital Inputs/outputs  
3. Industrial chiller service and maintenance, Centrifugal Tare Down  
4. Laser Alignment Technology, Rotary Screw Compressor Tare Down |
|              | 2nd Semester | 1. Types of Industrial Starters (wye-delta, part-winding, solid state)  
2. Variable Speed Motors, 2-speed Motors, Wiring Projects  
3. Magnetic Compressor Technology, Industrial Chiller Controls  