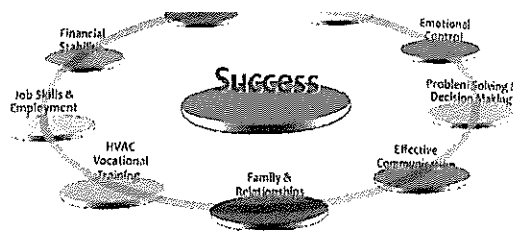


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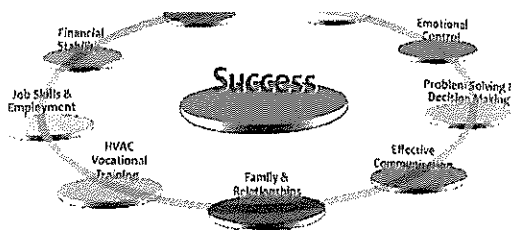
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The Rightway Foundation HVAC Academy Curriculum

Safety First

The Rightway curriculum prioritizes safety. Students must learn safety protocols before engaging in any work. The Rightway Academy has identified the 12 most significant HVAC safety problems and dangers and has compiled the best safety advice. Ensure you have the proper safety equipment before starting any work:

- 1. Safety Glasses**
- 2. Safety Gloves**
- 3. Safety Shoes**

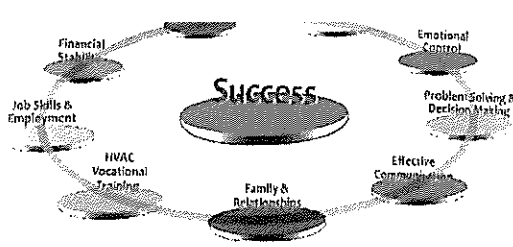


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Lockout Tag Method

When working with power sources electricity, water, gas, and fossil fuels and other safety hazards, it is crucial to follow the lockout tag method. Avoid using improper tools and equipment and be aware of respiratory hazards. Learn how to use a ladder safely and comply with OSHA rules and regulations.

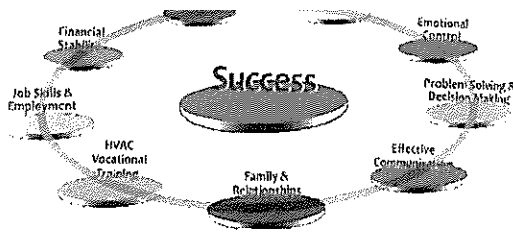


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Understanding Temperature

- Describe molecular motion at absolute zero
- Define the British thermal unit
- Explain heat flow between substances of different temperatures
- Detail the transfer of heat by conduction, convection, and radiation
- Discuss sensible heat, latent heat, and specific heat
- State atmospheric pressure at sea level and its variance at different elevations
- Describe the two types of barometers
- Explain psig and psia as they apply to pressure measurements

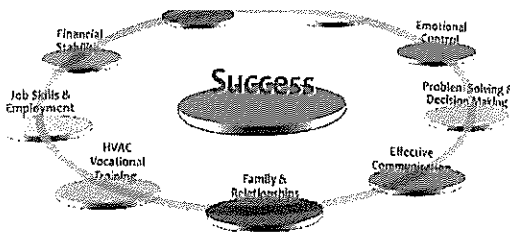


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Substance and Force

- Define matter
- List the three common states of matter
- Define density
- Discuss Boyle's Law
- Discuss Dalton's Law regarding gas pressures
- Define specific gravity and specific volume
- State two forms of energy important to the HVAC industry
- Define horsepower
- Convert watts to British thermal units

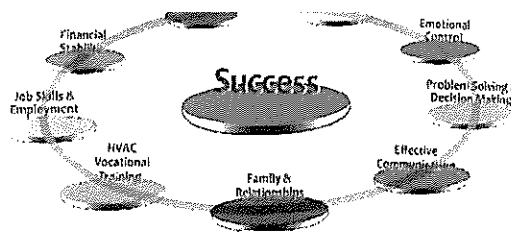


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Coolant and Cooling Systems

- Discuss applications for high, medium, and low-temperature refrigeration
- Describe "one ton of refrigeration"
- Explain the basic refrigeration cycle
- Relate vapor pressure to the boiling point of liquids
- Describe the function of the evaporator or cooling coil
- Explain the purpose of the compressor
- List common compressors used in residential and light commercial buildings
- Discuss the function of the condensing coil
- State the purpose of a metering device
- List four characteristics for choosing a refrigerant
- Describe partial liquid and vapor-filled controls
- Distinguish between bellows, diaphragm, and Bourdon tube
- Discuss the thermocouple and thermistor

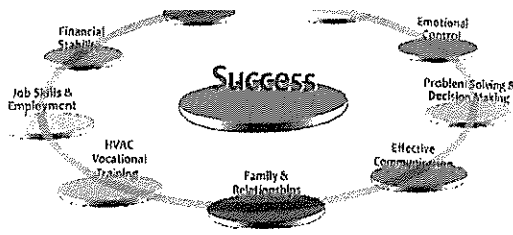


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Automation Systems

- Discuss space temperature control
- Describe the mercury control bulb
- Explain system overshoot and temperature swing
- Differentiate between low and high voltage controls
- Name components of low and high voltage controls
- Identify two ways motors are protected from high temperatures
- Compare diaphragm and bellows controls
- State uses of pressure-sensitive controls
- Describe high and low-pressure controls
- Discuss control range and differential
- Describe pressure transducers and relief valves
- Explain mechanical and electromechanical controls

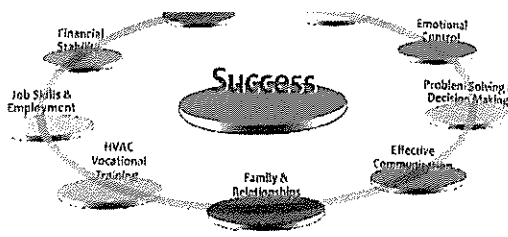


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Diagnosing Control Systems Issues

- Describe how to use a voltmeter for troubleshooting electrical circuits
- Identify typical problems in electrical circuits
- Explain how an ammeter is used in troubleshooting
- Recognize components in a heat-cool electrical circuit
- Follow the sequence of events in a heat-cool electrical circuit

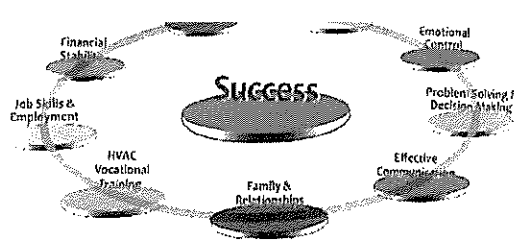


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Electric Propulsion Varieties

- Describe different types of open single-phase motors
- Explain applications of various motor types
- State which motors have higher starting torque
- List components that cause higher starting torque
- Describe a multi-speed permanent split-capacitor motor
- Explain three-phase motor operation
- Describe a motor used for hermetic compressors
- Explain motor terminal connections in various compressors
- Describe different types of compressors using hermetic motors
- Explain variable-speed motors

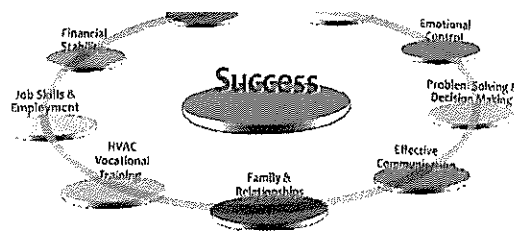


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Utilizing Motorized Systems

- Identify the proper power supply for a motor
- Compare three-phase and single-phase motor applications
- Explain noise isolation in motors
- Describe different types of motor mounts and drive mechanisms
- Differentiate between a relay, contractor, and starter
- State how locked-rotor current affects motor starter choice

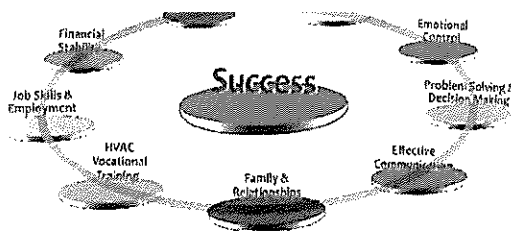


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Diagnosing Motor Malfunctions

- Describe types of electric motor problems
- List common electrical problems in motors
- Identify mechanical problems in motors
- Explain capacitor checkout procedures
- Differentiate troubleshooting for hermetic and open motors

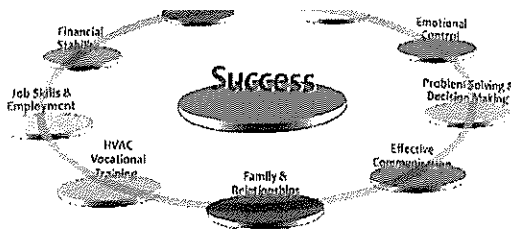


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Standard HVAC Parameters

- Explain conditions affecting evaporator pressures and temperatures
- Discuss the relationship between evaporator, condenser, and system performance
- Compare high-efficiency and standard-efficiency equipment
- Establish reference points for unfamiliar equipment
- Describe how humidity affects equipment suction and discharge pressure
- Charge fixed orifice, capillary tube, and piston systems using charts
- Charge systems with a thermostatic expansion valve (TXV) using subcooling
- Use modern pressure/temperature charts for subcooling and superheat calculations

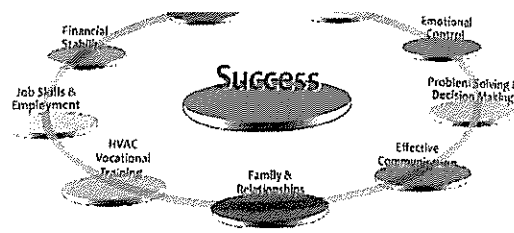


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Air Conditioning Troubleshooting

- **Select correct instruments for diagnosing mechanical problems**
- **Calculate operating suction pressure and discharge pressure under various conditions**
- **Use an ohmmeter to check electrical system components**

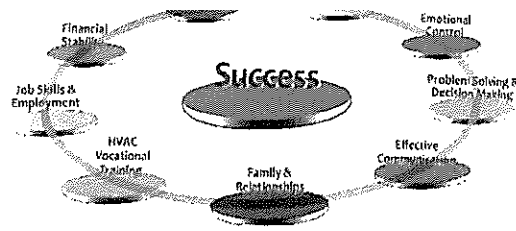


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Fundamentals of Electromagnetism

- Describe atomic structure
- Identify positive and negative charge atoms
- Explain what makes materials good conductors
- Describe how magnetism generates electricity
- Differentiate between alternating and direct current
- List units of electrical measurement
- Explain series and parallel circuits
- State Ohm's Law and electrical power formulas
- Describe solenoids, inductance, and transformer construction
- Explain capacitor function and electrical measurement procedures

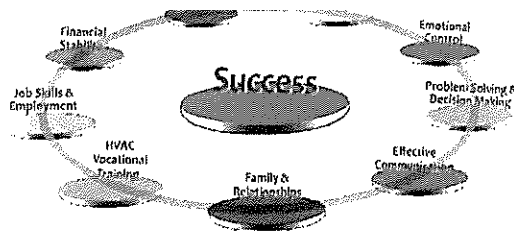


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Primer on Automated Systems

- Define bimetal and compare applications
- Describe rod and tube, fluid-filled controls
- Explain three methods manufacturers use to improve air-conditioning efficiency



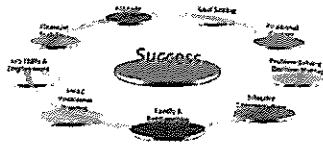
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Problem-Solving and Fault Diagnosis

- **Select instruments for diagnosing mechanical problems**
- **Calculate suction and discharge pressures**
- **Use correct instruments to troubleshoot electrical problems**
- **Use an ohmmeter for electrical system components**

Rightway Foundation



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To All Churches:

The Right Way Foundation Prevention and Intervention Program is asking for all churches to attend the Shreveport Police-Sheriff Community Summit. We are asking you to bring all church members to this event. There will also be a Cease-Fire Stop The Killing March. The mayor of Shreveport, the police chief, a member of the Sheriff's department, and commissioner Roy Burrell. During this event we will discuss and address critical issues affecting our community and work toward meaningful solutions. Your presence and insight are invaluable as we discuss pressing matters that require our collective and immediate attention. As many of you may already know, Caddo Parish has one of the highest incarceration rates in the state. This information comes from a report where data was compiled by the Prison Policy Initiative. The data further indicates that Allendale, Ingleside, Werner Park, and Queensborough have more members of their neighborhood populations imprisoned than most other neighborhoods in the state. Furthermore, this is more than double the citywide imprisonment rate. We know and understand this may not be your district, but it is imperative that we all work together and come up with solutions to this problem that is plaguing our city and neighborhoods which is why we feel that it is essential that you accept this invitation.

Agenda topics will include but are not limited to:

- Louisiana is ranked 43 in education out of all 50 states
- Working with BESE is paramount in addressing issues and finding solutions
- After school programs for elementary, middle school, and high school
- Address the alarming rate of murders and delve into the concerning increase in murders within the city
- Explore strategies to combat recent statistical murder rates
- Address recidivism among young adults and teens
- Interventions and programs to prevent recidivism
- Discuss opportunities for a better future and what that may look like
- Grassroots and intervention programs
- Explore the Right Way Foundation (support and guidance for at-risk youth)
- Solicit citizens and volunteers to help enhance the quality of life to revitalize Shreveport and surrounding parishes
- Promote Economic Development - initiatives to foster economic growth in our community
- How can we collectively create more job opportunities and pathways for **all** youth to thrive

Again, your participation and attendance is crucial in shaping the future of our community to ensure the well-being of **all** residents. Together, we can make a safer, more prosperous Shreveport.

The Right Way Foundation will commence a march on August 24, 2024, at 4:00 p.m. from Queensborough Elementary located at 2701 Catherine St., Shreveport, LA 71109 and will proceed to the fairgrounds at Independence Stadium. We will then begin discussions of the agenda topics listed above during the Community Police Summit.

For more information or questions: Contact Mr. Terence Vinson 318-527-2030.