

The logo for Smart Buildings Academy (SBA) features the letters 'SBA' in a bold, white, sans-serif font. The letters are enclosed within a white oval shape that is surrounded by several concentric, hand-drawn style orange and blue lines, creating a sense of motion and energy.

**SBA**

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# HVAC 101 Mini Course Guided Notes



# Lesson 3: Pumping and Piping Systems - Parts and Pieces

In this lesson, keep note of the following **Key Points**:

- Pipes and their functions
- Types of pipes
- Types of fittings
- Temperature and flow measurement devices
- Hydronic pump and its functions

The purpose of a pipe in chilled water and heating water systems is to \_\_\_\_\_.

Steel pipe is commonly used because it \_\_\_\_\_.

The elbow fitting in a piping system is used to \_\_\_\_\_.



## Lesson 3: Pumping and Piping Systems - Parts and Pieces

Temperature sensors in a pipe need three things:

What is the function of a strainer in a hydronic system?

In a hydronic pump, the \_\_\_\_\_ is a rotating blade that creates a centrifugal force to suck water into the pump and discharge it out.

# BAS200: Control Sequence Fundamentals Course



**BAS200: Control Sequence Fundamentals** provides a comprehensive study of HVAC control sequences. This course combines theory with more than a decade's experience working on some of the world's most complex BAS projects. Students will learn the why behind BAS control strategies and will leave with a solid understanding of "how" systems work.

- Length: 19h16m
- CEUs: 1.9



## BAS200: Control Sequence Fundamentals

### Course Objectives:

- Master how HVAC systems function and how to control them
- Demonstrate knowledge of BAS controls theory in HVAC systems
- Develop the ability to make design and programming decisions based on system requirements

### Some Key Topics:

- Learn what control sequences are and how control sequences are structured.
- Master the step-by-step process of interpreting control sequences.
- Create the foundational system knowledge that allows the student to understand the relationship between space control and upstream systems.
- Discover the different ways of controlling and conditioning the air stream along with the interrelationships between air systems and water systems.
- Learn what hot water systems are, how they are controlled, and how other systems interact with and influence hot water systems.
- Gain an awareness of how and why chilled water systems are used, the methods and processes that control chilled water systems, and the limitations of chilled water systems.
- Learn what the different strategies for pumping and piping are and how these strategies effect the control and efficiency of water based heating and cooling.
- Learn how unitary systems are controlled and how the effect existing building systems.
- Learn what a 2-pipe system is and how to properly control building systems that are supplied by 2-pipe systems.

<https://www.smartbuildingsacademy.com/control-sequence-fundamentals>