

**COURSE NAME** Advanced Networking and Integration Online

**FORMAT** Online eLearning

**DURATION** Average 8-16 hours to complete

**SCHEDULE** Self-Paced

**ASSESSMENT** A comprehensive online exam

## **AUDIENCE**

This course is targeted to building the knowledge base for automation and control system field technicians, application/field engineers, and programmers who work with Alerton's BACtalk and Ascent control systems.

## **OVERVIEW**

The Advanced Networking and Integration Online course, is the second in Alerton's networking technologies curriculum. This course covers the rules and configuration requirements for implementing a BACnet-based building automation and control system using Alerton's product line on a customer's enterprise network or on a network installed and managed by the dealer.

The integration component of the course covers integrating both Modbus RTU and Modbus TCP to an Alerton Ascent system.

## **OBJECTIVES**

After completion of this course, students will be able to:

- Describe the role BACnet plays in building automation and control systems
- List all the BACnet objects, properties and services
- Describe the relationships between BACnet objects, properties and services
- Describe BACnet's 4-layer network architecture
- List and describe three types of BACnet networks: Ethernet, MS/TP and PTP
- Describe key differences between BACnet/Ethernet and BACnet/IP
- Describe the functions of BBMDs on a BACnet/IP internetwork
- Describe the purpose and function of foreign device registration
- State the function of the BACnet Testing Laboratory
- List BACnet device profiles
- Describe the use and benefits of BIBBs and PICs
- Describe how to integrate a Modbus RTU device with an ACM
- Describe how to integrate a Modbus TCP device with an ACM

## **PREREQUISITES**

- A working knowledge of computers and current Microsoft Operating Systems
- Successful completion of the Alerton Networking Fundamentals course or CompTIA Network+ certification
- Successful completion of the Ascent Engineering & Commissioning or Ascent Programming Labs