

TECHNICAL TRAINING

Prerequisites

1. Students must demonstrate prior completion of the **recommended Elearning before attending this course**. An attendance record from the prescribed Elearning courses such as the certification of completion will be requested during the registration process.
2. Participants must have an understanding of the binary and hexadecimal numbering systems and have basic computer skills. Additional recommendations for reading on these topics can be provided on request.
3. Each student must bring an IBM compatible laptop PC or an equivalent and have administrator rights on the PC.

The PC must have minimum parameters of:

- Pentium 4 or later w/ 2GB of RAM and 250 Mb of free hard drive space
- USB Port
- USB to Serial adaptor (if no serial port on the PC)
- Ethernet 10Base-T LAN port with RJ-45 connector for local Ethernet connection
- 800x600 resolution, 256 color display (16-bit color)
- Microsoft Windows XP, Vista, or Windows 7
- TCP/IP installed and configured for LAN operation
- Web browser (Google Chrome recommended)

Course Outline

Note: Topics may be added or changed based on ongoing improvements to this course content.

- Basic Networking Concepts
 - OSI model
 - Unicast, Multicast, Broadcast
 - Basics of layers and protocols
- Physical layer
 - How Ethernet works
 - Collisions and CSMA/CD protocol
 - Logical and physical topologies
- Data Link layer
 - Solving the collision domain problem
 - Resolving bridge loops
 - Spanning tree protocol
 - Selection of root bridge
 - Solving the collision domain problem
 - Resolving bridge loops
- Network Layer
 - How do IP hosts communicate?
 - Address Resolution Protocol (ARP)
 - IP Addressing
 - IP Sub-netting
- Layers 4-7 and applications
 - TCP and UDP
 - DNS, DHCP, ICMP
 - Session layer
 - Presentation layer
 - Application layer
- Switching and VLANs
 - VLAN design
 - Configuring VLANs
 - Trunking
 - Managing broadcast domains

TECHNICAL TRAINING

- When and how to use Network Address Translation (NAT)
- Routing Protocols
 - Static and Dynamic routing
 - RIP
 - OSPF
- Troubleshooting switching and routing networks

Required Equipment for Training Sessions at Customer Sites

Classroom Setup	<p>Sufficient in size to handle all participants, instructor, desks, chairs, classroom equipment. The room must have enough 110 AC (220) AC power and air conditioning to operate equipment, all students clients PC's and the server or radio as required.</p> <p>Classroom Equipment</p> <ul style="list-style-type: none"> • Marker board, SVGA or Overhead projector and screen. <p>Desk and Chairs</p> <ul style="list-style-type: none"> • Desks or workstations with enough room for each student to write have open books, client PC and/or, keyboard and monitor. <p>Internet Access</p> <ul style="list-style-type: none"> • Internet access through the server or through client PC.
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Pricing & Scheduling

Please contact your Aviat local sales team for a quote or email aviatcareeducate@aviatnet.com and request pricing for the following items:

- TRN-WW-NETIPR101-01A Basic Networking and IP Routing Course (5-days) Open Enrollment.
- TRN-WW-NETIPR101-01B Basic Networking and IP Routing Course (5-days) at Aviat.
- TRN-WW-NETIPR101-01C Basic Networking and IP Routing Course (5-days) at customer site.

For courses conducted at customer site, please include the following in your request:

- MANDATORY** : TRN-WW-01C Onsite Training Setup and Administration Fee - WW
- OPTIONAL** : TRN-WW-ADVECL-01D Deploying Advanced Eclipse Features Course (5-days) field class with equipment.
- TRN-WW-CTR-01D CTR8540 Installation, Operation and Maintenance (5 days) field class with equipment