

Wireless Networking (Wi-Fi)



Course Length	Two (2) days
Course Code	NFSWF2
Course Title:	Fundamentals of Wi-Fi Networks (802.11)
Prerequisites	None, however a data fundamentals course is extremely helpful.
Course Overview:	This course is focused on providing any student the ability to layout out and design a wireless network, configure wireless routers and wireless networks adapters, add security to wireless networks, and to use the wireless network.

NetForce Solutions, Inc.
17281 Simmons Road
Purcellville, VA 20132

phone (540) 338-5824
fax (509) 757-1661

info@netforcesolutions.com

www.netforcesolutions.com

*** This course can be customized or combined to meet specific training needs ***

Course Outline

DAY 1

Wireless Networking Overview

- History of Wireless Networks
- Why Wireless

Wireless Network Architecture

- Wireless Basics
- RF Communication
- Network Design
- Transporting Data
- Ethernet and IP packets

Wireless LANs (WiFi)

- 802.11a/b/g
- 802.11h
- 802.11i
- 802.11n
- Wireless Access Points

Deploying Hotspots

Wireless Networking Equipment

Routers

Wireless Access Points

Switches

Adapter cards

Single vs. Multiple Access points

SSID

Channel assignment

Signal interference

Address assignment

IP addresses –Static vs. Dynamic DHCP

Wired and Wireless access points on the same LAN

Connecting to the WAN

DSL

Cable

Dedicated service – T1; DS3; Fiber

Internet Connectivity

ISP requirements

Two sides to every router- WAN/LAN

Performance Measurement

Distance limitations

WLAN throughput

Testing Internet connectivity

Measuring Internet throughput

Monitoring performance



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DAY 2

WLAN Security

- Threats to the WLAN
- SSID; access control
- Understanding Wireless Encryption
- Wired Equivalent Privacy (WEP)
- Wi-Fi Protected Access (WPA)
- Steps to a Secure Wireless Network

Configuring Network Computers

- Win98, 2000 and XP settings
- Installing network adapters
- TCP/IP properties
- Network clients
- File and Printer sharing
- Workgroups
- Internet connection Firewalls
- 3rd party Firewall software

Voice over Wi-Fi

Equipment Interoperability Problems

Hands-on Labs



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