

# DUXBURY CERTIFIED WIRELESS ENGINEER

Wireless Networking

## ● Objective

To introduce students to the fundamentals of Wireless technology.

## ● Class Summary

This course will offer an instructor-led classroom experience with supporting lab exercises.

## ● Class Content

### Introduction to Wireless

- IEEE 802.11 a/b/g
- Other IEEE 802.11 standards including 802.11, 802.11e/802.11w

### Wireless Architecture

- Infrared
- Narrowband
- Spread Spectrum Technology
- OFDM

### Wireless Topologies

- Ad-Hoc
- Wireless Network Infrastructure
- Point-to-Point
- Point-to-Multipoint

### Wireless Network Traffic

- Signal to Noise Ratio
- CSMA/CA
- MAC-Level Acknowledgements
- RTS/CTS Protocol
- The "Hidden Station" Problem
- IntraBSS Relay

### Roaming and Association

- Define Cells, Roaming and Association
- Coverage Areas
- Understanding Roaming and Association
- AP Density
- TX Power Control
- Load balancing

### Security

- SSID
- Closed System
- WEP
- WPA
- Rogue AP detection
- MAC Authentication
- 802.1 x Authentication

### Indoor Site Survey

- Preparation for a Site Survey
- Equipment needed for a Site Survey
- Planning the Site survey
- Coverage Areas
- Performing the Site Survey

### Outdoor Site Survey

- Line-of-sight
- Line-of-sight - Direct
- Line-of-sight - Indirect
- Line-of-sight - Preferred
- Antenna Alignment
- Lab work
- Exam

## ● Who Should Attend

Network Administrators, Pre-Sales Engineers, Sales staff, Post-Sales Engineers, Consultants and small business owners.

## ● Prerequisites

A familiarity with computer concepts and skills, Basic Networking skills, Ethernet, TCP/IP and Basic Wireless Networking terminology.

### Course Duration

1 day

### Course Cost

R900.00 Excl. VAT per person

### Contact

JHB: 011 351 9800  
CTN: 021 423 7115  
[www.duxbury.co.za](http://www.duxbury.co.za)