
Fundamentals of IP microwave radio communication Microwave Communication System Course TRN-WW-BMT-01

Course Specifics

Duration:	1 days
Class capacity:	10 students
Location(s) for open enrollment:	San Antonio, TX, USA Hamilton, Scotland, UK Paris, France Lagos, Nigeria Clark, Philippines Mexico City, Mexico
Materials provided:	Student Handbook (e-Book)



Course Description

The Aviat Networks Basic Microwave course is a theory course that teaches the **fundamentals of IP microwave radio communication**.

Courses are **conducted by AVIAT expert trainers** in a mentoring environment backed by their deep technology expertise and experience in implementation of microwave wireless and IP networks.

The course is **conducted at Aviat Training locations or can be arranged at customer sites**.

Target Audience

This course is intended for entry level personnel requiring a working knowledge of basic microwave concepts.

Prerequisites

- None, this is an entry level course
- An IBM compatible laptop PC or equivalent with Internet Access is recommended but not required

Objectives

Upon successfully completing this course, participants will be able to:

- Understand the different network elements which are incorporated in a microwave telecommunications system.

Course Outline

Microwave Theory

- Microwave Theory
- RF Spectrum
- Microwave System Architecture and Design
- Indoor vs Outdoor RF units
- Bandwidth, Modulation and Capacity
- Adaptive Modulation
- Microwave Antennas
- Multichannel and XPIC Operation

Microwave Path Design and Propagation

- Microwave Path Design Overview
- Free Space Loss
- Link Budgeting
- Transmission Engineering
- Path Design Software Tools
- Microwave Propagation
- Multipath Fading
- Fresnel Zones
- Rain Fading
- Rain Models
- Microwave Interference

Microwave Data Transport

- Time Division Multiplexing (TDM)
- Digital Multiplexing Theory
- Digital Signal Hierarchies
- SONET and SDH
- Ethernet over Microwave
- TDM to Ethernet Transition
- Layer 2 Switch
- Carrier Ethernet Features
- Microwave Network Management
- Microwave Routers and MPLS

Microwave System Protection

- Protection Schemes
- Space, Frequency, and Dual Diversity
- TDM Ring Protection
- Ethernet Ring Protection
- Ethernet Link Aggregation
- MPLS Traffic Engineering

Required Equipment for Training Sessions at Customer Sites

RADIO	Not Applicable.
OTHER EQUIPMENT	Not Applicable.

EDUCATION SERVICES



CLASSROOM SET UP

Sufficient in size to handle all participants, instructor, desks, chairs, class room 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.

Classroom Equipment

Marker board, SVGA or Overhead projector and screen.

Desk and Chairs

Desks or workstations with enough room for each student to write have open books, client PC and / or, keyboard and monitor.

Internet Access

Internet access through the server or through client PC. (Recommended)

Pricing & Scheduling

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