

Course ID
FUTURE
Course Duration
1-2 days

Course Title
Future of Wireless

Related Courses

- State-of-the-art of Wireless Communications for Non-engineering Professionals, Managers, and Executives (WIRELESS-EXEC, 2-4 days)
- History, State-of-the-art, and Future of Wireless: Wireless Technology and Applications for Businessmen (WIRELESS-BIZ, 3-5 days)
- 3G LTE/4G: The Next Generation Mobile Networks (3GLTE-4G, 2 days)
- WiMAX: Technology, Business, and Competitive Landscape (WIMAX-BIZ, 2 days)
- State-of-the-art of WiFi for Non-engineering Professionals, Managers, and Executives (WIFI, 1 day)
- State-of-the-art of Satellite Communications for Non-engineering Professionals, Managers, and Executives (SATCOM-EXEC, 1 day)
- State-of-the-art of VoIP Technology for Professionals, Managers, and Executives (VOIP-EXEC, 1 day)
- GSM: A Technology Overview (GSM-B, 1 day)
- iDEN™: A Technology Overview (IDEN-O, 1 day)
- Wireless Network Structure, Operation, and Technologies (WIRELESSNET, 3 days)
- Wireless Technologies: A Comparative Study (COMPARISON, 2-4 days)

Aimed At

Professionals, managers, sales/marketing personnel, investors, analysts, and others who need to keep up with the development in the rapidly evolving field of wireless communications.

Group Size

5-25

Prerequisites

You need not be an engineer but you should be comfortable with the discussion of technological issues and possess some prior exposure to wireless communications.

**Course
in a Nutshell**

This course is available in one- or two-day versions, with the duration depending on the desired degree of detail. We will begin by reviewing the development of wireless technology through the past 20 years. Having understood what drove the evolution of wireless from 1G to 2G and from 2G to 3G, we will take a look at WiMAX and other 4G broadband technologies now in planning or preliminary deployment. You will learn the important concepts and terminology and gain insight into the key technical and marketing challenges associated with WiMAX and other emerging technologies. All in all, this course will help you acquire a bird's eye-view of where wireless has come from and where it's headed.

Customize It!

We can adjust this course to the needs of your particular audience by fine-tuning the topics, emphasis (technical versus business), and amount of detail. Let us know why you are taking this course, so we can tailor it to your requirements.

Learn How To

- Describe the key concepts that underlie the architecture and operation of wireless networks
- Explain how the wireless technologies evolved, the various families of technologies, and their interrelationships
- List the factors that led the evolution of 1G wireless technologies to 2G, 2.5G, and 3G
- List the factors that are driving the evolution of wireless networks to 4G and beyond
- Describe the advanced technologies that are now in the planning or deployment stages

**Course
Outline**

- History of Wireless Communications
 - A quick overview of RF basics
 - Timeline of major technological developments
 - Early mobile radio systems
 - “Improved” Mobile Telephone Service
- Frequency Reuse and the Emergence of Cellular Radio
- Mobile Radio Spectrum and Propagation Fundamentals
- “Advanced” Mobile Phone Service (AMPS)
- Second Generation Cellular Systems
 - North American TDMA: IS-136
 - CDMA: IS-95
 - “European” TDMA: GSM
 - GSM’s evolution to GPRS and EDGE
- Third Generation Cellular Systems
 - cdma2000
 - 1xRTT

- 1xEVDV and 1xEVDO
- UMTS and HSPA (HSDPA, HSUPA)
- Advanced Wireless Technologies: 4G and Beyond
 - What's driving the ongoing technology evolution?
 - What is (and is not) 4G?
 - Outlook for advanced wireless technology
 - Emerging broadband wireless standards
- Evolving 4G Standards
 - 3GPP and 3GPP2: What role do they play in the standardization process?
 - IEEE standardization process
 - WiMAX and WiFi
 - WiMAX and mobile WiMAX comparisons
 - WiBro (S. Korea)
 - Ultra Mobile Broadband (UMB)
 - Long Term Evolution (LTE)
 - Evolved-UTRA (E-UTRA)
 - Overview of OFDM and MIMO
- Proprietary Broadband Wireless Technologies
 - i-Burst technology from ArrayComm
 - Flash-OFDM from Flarion (now Qualcomm)
- Concluding Thoughts
 - Marketing challenges for future broadband wireless systems
 - Technical challenges for future broadband wireless systems
 - Course wrap-up: Recap, Q/A, and evaluations

How You Will Learn

- You will be taught by a highly experienced wireless technologist and presenter who is widely experienced in a range of telecommunications technologies.
- We will present this course in interactive lecture format. Along with lecture, we will use exercises, mini case studies, and interesting group activities to make the course more interesting and instructive.
- If you already know something about wireless technologies, our presentation will take advantage of that by building the discussion on what you already know. If your background is less technical, we will use suitable examples and analogies to make the material understandable.
- You will receive a printed Participant Handbook that will contain a copy of the instructor presentation along with additional educational material.

Revised

August 12, 2007