Wireless Communications Engineering: Current Practice

Subtitle: Updated Course; New Content
Course Format:
Online Course
Date:
Wed, April 10, 2013 - 9:00am - 4:30pm EDT
Location: Online
Price:

$250 IEEE / ComSoc member
$300 non-member
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By taking this course, you will better understand:

- The network components that comprise a wireless communications system architecture
- The evolution of IEEE 802.11, 3GPP, and 3GPP2 standard technologies
- Fundamental engineering techniques of antenna systems and communications engineering
- Impacts to radio frequency propagation
- The evolution of wireless access technologies including FDMA, TDMA, CDMA, and OFDMA
- An overview of the LTE RAN and the Evolved Packet Core
- An overview of LTE protocol layering and channels
- Example peak throughput calculations for IEEE 802.11 and LTE
- An overview of TCP/IP architecture and operation fundamentals
- A review of the Service Delivery Platform Architecture
- An overview of agreements, standards, policies, and regulations for wireless networks

System Requirements
Windows support

- Intel Core2 Duo CPU 2.XX GHz or AMD processor. (2 GB of RAM recommended)
- JavaScript and Cookies enabled
- Active X enabled and unblocked for Microsoft Internet Explorer (recommended)

- Java 6.0 or above

Mac support

- Intel processor (512 MB of RAM or more recommended)
- JavaScript and Cookies enabled
- Plug-ins enabled in Safari
- Java 6.0 or above
- Kernel: 2.6 or later
- X Lib: X11R6 or later compatible
- C++ Lib: libstdc++ 6
- Desktop Environment, XFce 4.0 or later, KDE, Ximian, Gnome
- GDK/GTK. version: 2.0 or later
- Glib: 2.0 or later
- Sun Java 1.5 or later

Linux support

- Kernel: 2.6 or later

- X Lib: X11R6 or later compatible
- C++ Lib: libstdc++ 6
- Desktop Environment, XFce 4.0 or later, KDE, Ximian, Gnome
- GDK/GTK. version: 2.0 or later
- Glib: 2.0 or later
- Sun Java 1.5 or later

Instructors:
Jonathan Levine
Who Should Attend:

Recommended for a broad audience - this course is especially well suited for those with an engineering or technology background, or an appreciation of wireless communications engineering and practice. It is also of significant interest for individuals working in a relatively narrow or specialized aspect of wireless communications, as it aims to provide a comprehensive overview of how different facets of wireless practice fit into the overall design, implementation, and operation of wireless networks. It will help attendees understand current technology and operations and assess prospective future developments in wireless communications. This course can also help candidates seeking certification in wireless communications engineering technology in their preparation for the exam.
Learning Objectives:

Gain an understanding of the:

- Difference between analog and digital communications and the engineering aspects of each
- Main improvements in the evolution of 3GPP, 3GPP2, and IEEE 802.11 standards groups
- End-to-end wireless network architecture and a functional description of each network component

In addition, learn about:

- Backhaul - conceptually defined with current options, legacy solutions, and tradeoffs
- VoLTE - define requirements of the technology, identify network requirements, and a discussion of the current status of the industry
- Fundamental description of basic SIP call flow
- An overview of self-optimizing / self-organizing networks including: Automatic neighbor relations, eICIC, and energy efficient initiatives
- Current wireless network band strategy for LTE and future networks

Course Content:

1. Introduction
2. Antennas, Radio Propagation and Engineering
3. Access Technologies & Standards
4. Wireless Networks
5. Network Management & Security
6. Spectrum & Network Engineering Practices
7. Wireless Services
8. Research & Vision of the Future
9. Wrap Up

Course Materials:

Each registered student receives a copy of instructor slides and access to the recording of the course for seven days after the live lecture.Earn 0.6 IEEE Continuing Education Untis for participating.

COURSE CANCELLATION and REFUND POLICY

Requests for online course cancellations must be received 7 business days prior to the course date for a full refund. Once course materials have been shipped to a course participant, if a cancellation request is made, only a 50% refund can be issued and transferring the seat to a future course date cannot be accommodated. Refunds for in-person courses can be issued up to 5 days prior to the course.

Clarification on Course Materials and Delivery.

A copy of the instructor's PowerPoint slide presentation is provided via post to all online course registrants. For in-person courses the handout is distributed on site. The handout is provided as

a courtesy and is made available for the course participants future reference. For registrants who purchase a seat in a course less than 7 business days prior to the course being taught, there is no guarantee that the course materials will arrive by the date the course is taught online. Having a copy of the slides in hand does not preclude a registrants ability to participate in the live teaching of the course or their ability to review the recorded session.

Registration Link: https://register.comsoc.org/content/wireless-communications-engineering-current-practice-apr-2013

Registration Note:

Register by 3 April to guarantee delivery of your course handout in time for the course.

Registration Ends:

Tue, 04/09/2013 - 17:00

General Contact: m.catis@comsoc.org

Technical Support Contact: a.ruiz@comsoc.org
