Teracom Training Institute
teracomtraining.com
Best of breed: telecommunications training

TELECOMMUNICATIONS CERTIFICATION ORGANIZATION

Certified Wireless Analyst

Get fully up to speed on wireless – with certification to prove it!

Learn the fundamentals, jargon and buzzwords, principles of operation and ideas behind the full range of today's wireless technologies.

Get the CWA Certification Package, complete with high-quality courses featuring our entertaining instructor, graphics and bullets, plus certification:

Course 2231: Wireless Fundamentals
- Radio fundamentals. Radio spectrum.
- Digital: modems and modulation

Course 2232: Mobile Communications
- Cellular principles. Mobility and handoffs.
- PSTN Phone Calls. Mobile Internet Access.
- The generations: 1G, 2G, 3G, 4G LTE, 5G New Radio
- The technologies: FDMA, TDMA, CDMA, OFDM and OFDMA
- The systems: GSM, 1X, UMTS, LTE, LTE-Advanced, 5G

Course 2233: Fixed Wireless
- Wireless LANs, Wi-Fi and 802.11 standards, WPA2 and WPA3 security
- Bluetooth, 3.5 GHz Home Internet, LPWA, point-to-point and satellites

Upgrade your skills – and your résumé – with this set of courses, giving you the core technical knowledge base required in the wireless business.

Guaranteed to pass with unlimited exam repeats!
No-questions-asked 30-day 100% money-back guarantee.
Quality and recognition you can count on.

Invest in yourself! Get started today **at teracomtraining.com**

Benefits of Certification for Individuals

TCO Certification differentiates you from the rest of the crowd when applying for a job or angling for a promotion.

The knowledge you gain taking these high-quality courses, confirmed with TCO Certification, is foundational knowledge in radio and wireless: fundamental concepts, mainstream technologies, jargon, buzzwords, the underlying ideas - and how it all fits together.

This type of knowledge and preparation makes you an ideal candidate to hire or promote to a task, as you will be able to build on your knowledge base to quickly get up to speed and work on a particular project - then have the versatility to work on subsequent projects.

TCO Certification will help demonstrate you have this skill... a desirable thought to have in your potential manager's mind.

Benefits of Certification for Employers

Take advantage of these courses for individual learning, a team, or for an entire organization. The scalable myTeracom Learning Management System can register and manage all of your people through their courses, lessons and exams, and generates reports showing progress and scores.

For larger organizations, the courses and exams can also be licensed and deployed on an organization's internal LMS.

Teracom certification packages are an extremely cost-effective way of implementing consistent, comprehensive telecommunications and networking technology fundamentals training, ensuring that existing resources and new hires are all up to the same speed, with a common vocabulary, framework and knowledge base.

Quality You Can Trust

Benefit from decades of knowledge, insight and experience distilled into clear lessons, logically organized to build one concept on another.

Based on Teracom's proven instructor-led training for AT&T, Verizon, Bell Canada, Intel, Microsoft, Cisco, Qualcomm, NSA, CIA, FAA, US Army, Navy, Marines and Air Force and hundreds of others. This training is top-notch, top-quality and right up to date with the topics and knowledge you need.

Supplier to the US Government under GSA contract GS-02F-0053X

Get started today with this invaluable addition to your knowledge and skills!

Overview of CWA Courses

Course 2231 Wireless Fundamentals

Begin with the fundamentals: what radio is, how it's organized and how and it's used to communicate information. Since most systems are digital, we spend some time understanding how modems represent 1s and 0s on radio and explain jargon like QAM and QPSK. We finish with propagation, penetration and fading.

A. Radio
B. Wireless Spectrum and Radio Bands
C. Analog Radio
D. Digital Radio: How Modems Work
E. Propagation, Penetration and Fading

Course 2232 Mobile Communications

With a good foundation in place, we'll cover mobile communications from A to Z: cellular principles, digital voice, mobile Internet access, the technologies: FDMA, TDMA, CDMA, OFDM and OFDMA and the generations: 2G GSM, 3G UMTS, 4G LTE and 5G New Radio. This is where the money is!

A. Mobile Network Components and Operation
B. Cellular Principles
C. 1G: Analog Frequency-Division Multiple Access
D. PSTN Calls Using the Native Phone App: Voice Minutes
E. Mobile Internet: Data Plan
F. 2G: TDMA (GSM) Time-Division Multiple Access
G. CDMA Code-Division Multiple Access
H. Spread Spectrum
I. 3G: CDMA 1X and UMTS
J. Spectrum-Sharing Roundup: FDMA, TDMA, CDMA, OFDM
K. 4G: LTE Mobile Broadband
L. OFDMA and Dynamic Assignment of Subcarriers
M. 5G NR: Enhanced Mobile Broadband, IoT Communications

Course 2233 Fixed Wireless

We'll round out your knowledge with fixed wireless: Wi-Fi, 802.11, Wi-Fi security, Bluetooth, WiMAX, point-to-point microwave and satellites.

A. Infrared
B. Bluetooth
C. Wi-Fi: Wireless LANs including Wi-Fi 6 802.11ax
D. Wi-Fi Security, WPA2 and WPA3
E. 3.5 GHz Broadband Wireless Home Internet
F. Low Power Wide Area Networks for IoT
G. Point-to-Point Microwave
H. Satellite

Invest in yourself! Upgrade your résumé with this essential core knowledge.

What You Get With The CWA Certification Package

1. High-quality, up-to-date, comprehensive training

You will get a solid foundation of structured knowledge. You will learn the fundamentals, technologies, jargon and buzzwords… and how it all fits together

2. The certification exam

Each course in the certification package has an associated exam, typically ten multiple-choice questions with a 20-minute time limit.
You get unlimited repeats of the exam - which means guaranteed to pass.
Plus, on achieving a passing grade:

3. Your certificate, suitable for framing

A full-color TCO Certificate suitable for framing is automatically awarded by the Learning Management System on completion of the required exams.
The PDF can be immediately printed on plain or textured paper on any color printer and framed by student as desired, with no shipping charges. It can also be attached to the electronic version of the student's CV.
An original hard copy of your Certificate, signed and sealed, can be sent to you by mail for $25 plus first-class mail cost.

4. A personalized Letter of Reference / Letter of Introduction

You also receive a personalized Letter of Reference / Letter of Introduction explaining the courses you took and the knowledge you have, and inviting anyone you give it to to contact us as a reference... excellent addition to your CV.

5. Right to display the TCO logo

You'll have the right to display a high-resolution copy of the TCO logo on your résumé, business card, LinkedIn profile, web page, blog, or email signature.

6. TCO Certification Designation

Passing the Certified Wireless Analyst, you will be able to state that you:

- “are a Certified Wireless Analyst”,
- “hold a Certified Wireless Analyst certification from the Telecommunications Certification Organization”,
- are “certified as a Wireless Analyst by the Telecommunications Certification Organization”,
- are a “Telecommunications Certification Organization (TCO) Certified Wireless Analyst”,
- are “TCO-certified”,

and may sign your name

- “Richard Smith, CWA,” or “Jane Smith, Certified Wireless Analyst”

7. A 30-day no-questions-asked 100% money-back guarantee.

CWA Courses Detailed Outline

Course 2231 Wireless Fundamentals

1 Introduction to CWA

2 Radio

- 2.1 Definition of “Radio”
- 2.2 Applications for Radio
- 2.3 Representing Information Using Radio

3 Wireless Spectrum and Radio Bands

- 3.1 The Need for Regulation
- 3.2 Spectrum
  - 3.2.1 Capacity vs. Performance Tradeoff
- 3.3 Frequency Bands
  - 3.3.1 Broadcast Television
  - 3.3.2 Repurposing of Broadcast Television Spectrum
  - 3.3.3 Two-Way Radio: FDD or TDD
  - 3.3.4 600 MHz Band
  - 3.3.5 700 MHz Band
  - 3.3.6 800, 900, 1800 and 1900 MHz bands
  - 3.3.7 Unlicensed Bands
  - 3.3.8 2.5 GHz Band
  - 3.3.9 3.5 GHz Band
  - 3.3.10 3.7 GHz C-Band 5G
  - 3.3.11 Millimeter-Wave Bands

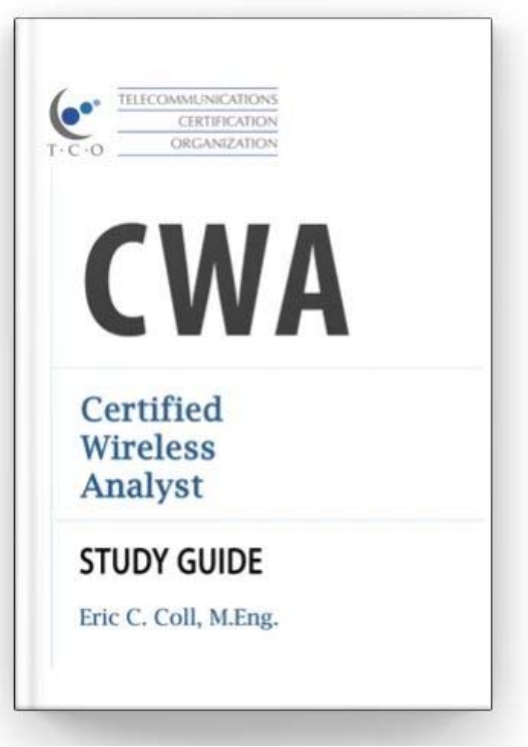
4 Analog Radio

- 4.1 Definition of Analog
- 4.2 Carrier Frequency for Radio
- 4.3 AM, FM and PM

5 Digital Radio: Modems

- 5.1 Amplitude Shift Keying
- 5.2 Frequency Shift Keying
- 5.3 Phase Shift Keying
- 5.4 Baud Rate
- 5.5 More Signals = More Bits

Course 2232 Mobile Communications



Study Guide Available in eBook and Print

The optional CWA Study Guide is a great enhancement to the TCO Certified Wireless Analyst Certification Courses.

The CWA Study Guide contains detailed notes and graphics corresponding exactly to the CWA lessons. This book therefore contains all of the answers to the CWA exam questions!

Having a companion reference textbook avoids the need to take notes, and greatly enhances learning and retention.

Visit teracomtraining.com/textbooks.htm for ordering information.