



## GSM MAP

**Course Length:** 3 days

**Description:** Global System for Mobile Communication (GSM) is the world's leading wireless communication standard. This course defines the protocol structure and content of the messages which support the GSM mobile applications and services. You will gain a thorough knowledge of how messages are constructed and how mobile communications between elements is accomplished.

### **Course Outline:**

- **Architecture Overview**
  - ✓ GSM elements and subsystems
  - ✓ Interfaces and numbering
  - ✓ Signaling across the various interfaces
  - ✓ GSM identities
  
- **Common Channel Signaling and Standards**
  - ✓ Switches, STPs and databases
  - ✓ Links – low-speed & high-speed
  - ✓ Network interconnection
  - ✓ SS7 protocol and GSM
  - ✓ 3GPP standards
  
- **A-Interface**
  - ✓ Signaling on the A-interface
  - ✓ Connection-oriented SCCP
  - ✓ BSSMAP and DTAP
  - ✓ Call flows across the A-interface
  
- **GSM MAP**
  - ✓ ITU-T TCAP structure
  - ✓ GSM MAP operations
  - ✓ GSM MAP parameters
  - ✓ GSM MAP standards documents
  - ✓ ISDN-UP in handovers



- **GSM Call Flow Scenarios**
  - ✓ Location Updating
  - ✓ Authentication and Ciphering
  - ✓ Mobile Originated Calls
  - ✓ Mobile Terminated Calls
  - ✓ Short Message Service
  - ✓ Handovers

Exercises are provided throughout the course, reinforcing a practical understanding of the material. This gives the student practice in analyzing the protocol and understanding how the data being sent and received is used.

**What You Will Learn:** In this course you will learn about GSM components, subscriber identities along with network identities. We will briefly look at the lower layers of the SS7 protocol which is used for message routing and transport. Emphasis is placed on the TCAP ITU-T standard, the Mobile Application Part (MAP) application and signaling across the A-interface. Call-flow scenarios show how the various elements signal and communicate.

**Who Will Benefit From This Course:** This course will be beneficial to Cellular and PCS providers and their agents who need an understanding of GSM network signaling. Others who could benefit would include those working in a Network Operations Center (NOC), network technical support, planners, network or traffic engineers and interconnection specialists.

**Course Prerequisites:** A basic knowledge of mobile telephony would be helpful, but not essential. A good knowledge of the SS7 protocol structure is necessary. This course can be combined with our SS7 Protocols course to gain that knowledge.

**Instructors:** All of our instructors have years of experience developing and teaching technical courses at Telcordia Technologies (Bellcore) Learning Services in Lisle, IL.. They are all SS7 certified and CompTIA CTT+ Certified Professionals.

*\* This course is provided through special agreement with Telecom Training Associates, Inc.*