# MPIRICAL

Innovating Telecoms Training

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Very informative and beneficial, thank you!

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📹 Watch our course intro video.

# Introduction to GSM and GPRS

## Course Description

With the continuing role out of 5G, the second generation technologies of GSM and GPRS still play an important part in the global communication landscape. In this short course, we aim to provide a comprehensive introduction into the two systems and in so doing, explain how they support circuit switched voice and packet switched data traffic. Mobility is discussed in addition to reviewing how roaming is supported for both GSM and GPRS.

This course has no prerequisites.

**½ day** (LiveOnsite, LiveOnline)

**3 hours learning** (OnlineAnytime)

**3 CPD Learning Credits**

**Level: 1 (Beginner)**

**This course will contain the following sections:**

## 1. Introduction to GSM and GPRS

**Topic areas covered include:**

- Building the Foundations:
    - Why are we still talking about 2G?
    - The Fundamental Elements of a Mobile Network.
    - Circuit Switching and Packet Switching.
    - Technology Evolution.

- The GSM and GPRS Network:
    - The GSM and GPRS Device:
        - Mobile Equipment.
        - SIM and eSIM.
    - The GSM EDGE Radio Access Network:
        - BTS, BSC.
    - The GSM and GPRS Core Network:
        - Circuit Switched Core – MSC-S, MGW.
        - Packet Switched Core – SGSN, GGSN.
        - Network Databases – HLR, AuC.

- The GSM and GPRS Air Interface:
    - Frequency Reuse and TDMA (Time Division Multiple Access).
    - Driving Data with EDGE (Enhanced Data for Global Evolution).
    - Location Areas and Routing Areas.

- Connecting to the Network:
    - GSM Mobility Management.
    - GPRS Mobility Management.
    - Initial Procedures:
        - Cell Selection.
        - Attach to GSM.
        - Attach to GPRS.

- Making and Receiving Calls:
    - Mobile Originated Call.
    - Mobile Terminated Call.
    - SMS Transfer.

- Sending and Receiving Data:
    - Session Management and PDP Contexts.
    - Data Transfer:
        - Uplink Data Transfer.
        - Downlink Data Transfer.

- Supporting Mobility:
    - Cell Re-selection.
    - Handovers.
    - Roaming:
        - GSM Roaming.
        - GPRS Roaming.

**Watch a Sample Video Online**

**1/2 day** (LiveOnsite, LiveOnline)

**3 hours learning** (OnlineAnytime)

**3 CPD Learning Credits**

**LiveOnsite, LiveOnline, OnlineAnytime**

# Managed Learning Services

As part of our managed learning service we can offer you and your organisation a full range of services including:

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- Bespoke content and courseware development.
- Product specific training packages, including product updates.
- Dedicated trainers to understand your products and training requirements.
- Managed training delivery services – administrative aspects including scheduling and liaison.
- Customizable learning management system.
- Traditional classroom, virtual classroom or video based online learning options.

# NetX

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