



**IT, Telecommunication &  
Networking**



**SCANDINAVIAN ACADEMY**  
Training and Development



# Course: GSM In\_Building Coverage Solutions

Code	City	hotel	Start	End	price	Hours
435	Beirut (Lebanon)	Hotel Meeting Room	2024-07-07	2024-07-11	2550 €	25

## Overview

This course is designed for radio engineers and planners wanting a thorough understanding of the principles of indoor coverage solutions for GSM. The course covers topics from surveying the site to installation of the solution. At the end of the course, delegates will be able to: - Understand how and when to use indoor solutions - Understand the techniques for coverage solutions - Understand the tools that can be used to plan solutions - Understand the issues faced with implementing a solution

## Modules

### Introduction (2 topics)

1. Overview of cellular network design
2. Overview of In-building coverage solutions

### Overview of In-building coverage solutions (6 topics)

1. Why and when to implement a solution
2. Understanding the users of indoor solutions
3. Architecture of indoor solutions
4. Components
5. Active vs. passive
6. Propagation models

### Step Site Survey (3 topics)

1. Overview of site
2. Requirement analysis
3. Coverage analysis



### **Step Design (17 topics)**

1. Analysis of site survey
2. Design elements to consider
3. Co-axial model
4. Leaky feeders
5. Amplifiers
6. Repeaters
7. Others
8. Points to consider
9. Final draft of plan
10. Confirmation of site vs. plan
11. Antenna distribution
12. Leaky feeder solution
13. Fibre solution
14. Picocell solution
15. Spectrum optimisation
16. Hand-over
17. RF power control

### **Step Implementation (16 topics)**

1. Overview of solutions
2. Passive Solutions
3. Passive co-axial
4. Implementation
5. Couplers
6. Splitters
7. Active Solutions
8. Active co-axial
9. Implementation
10. Amplifiers
11. Leaky Feeder Solutions
12. Implementation
13. Fibre Optic Solutions
14. Implementation
15. Picocell Solutions
16. Implementation



### Coverage Models (2 topics)

1. Software tools
2. Limitations to use



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- **Theoretical Lectures:**
  - We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.
- **Scientific Assessment:**
  - We evaluate trainees skills before and after the course to ensure their progress.
- **Brainstorming and Interaction:**
  - We encourage active participation through brainstorming sessions and applying concepts through role play.
- **Practical Cases:**
  - We provide practical cases that align with the scientific content and the participants specific needs.
- **Examinations:**
  - Tests are conducted at the end of the program to assess knowledge retention.
- **Educational Materials:**
  - We provide both printed and digital scientific and practical materials to participants.
- **Attendance and Final Result Reports:**
  - We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.
- **Professionals and Experts:**
  - The programs scientific content is prepared by the best professors and trainers in various fields.
- **Professional Completion Certificate:**
  - Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.
- **Program Timings:**
  - Training programs are held from 10:00 AM to 2:00 PM and include buffet sessions for light meals during lectures.