



Learning Guide Unit 3

Overview

Unit 3: The Physical Layer (continued) and the Data Link Layer

Topics

- Evolution of [Wireless Communication Technologies](#)
- Hamming Code Implementation
- Carrier Sense Multiple Access with Collision Avoidance and [Collision Detection \(CSMA/CD\)](#)
- [Error Correction vs. Retransmission in Data Link Layer](#)

Learning Objectives

1. Describe the differences and evolution of the [mobile phone technology generations](#)
2. Analyze and correct a message with a single [bit error](#) by use of [Hamming code](#)
3. Give an example of a multiple sender [hidden-node problem](#) in [wireless communications](#)
4. Explain when to use [Error Correcting Codes](#) instead of [Error Detection and Retransmission](#)

Checklist

- Peer-assess Unit 2 Assignment
- Read through the Learning Guide and the Reading Assignment
- Complete the Discussion Assignment by posting in the [Discussion Forum](#)
- Respond to and rate three of your fellow classmates' posts in the [Discussion Forum](#)
- Complete and submit the Written Assignment
- Complete and submit the [Learning Journal](#)
- Take and submit the Self-Quiz
- Take and submit the Graded Quiz

