

Introduction to Wireless Systems

TCOM 511/ESE 575, Fall 2007

The objective of this course is to study the principles and underlying concepts of wireless communication systems. The focus of the course is on the physical (PHY) and MAC layers of wireless systems. Topics covered include specific issues of commonly deployed wireless systems: GSM, CDMA and IEEE 802.11 systems. Both analytical and computer simulation models are used to study the above issues.

Course Description

1. Wireless channel characteristics and statistical modeling.
2. Modulation and error control techniques.
3. Equalization and diversity techniques.
4. Specific issues of CDMA systems: spreading, RAKE receiver, soft-handoff, etc.
5. IEEE 802.11 PHY and MAC layers.

Prerequisites

Undergraduate course in signal processing, communication systems or statistics.