

Common Course Outline
DCOM 256
Introduction to Wireless Data Communications
4 Semester Hours

The Community College of Baltimore County

Course Description

This course presents the basic concepts of communications terminology and concepts used by many subsequent curriculum topics in wireless and information technology. Topics covered include the History of Telecommunications, Signals and Bandwidth, Noise and Interference, Filters, Signal Modulation, and Digital Keying.

3 credits; 3 lecture hours Pre-requisite/Co-requisite: DCOM 101

Course Objectives

Overall Course Objectives:

Upon completion of this course the student will be able to:

- A. Understand the history of telecommunications
- B. Analyze signal types and bandwidths in telecommunications
- C. Characterize sources of noise and interference
- D. Understand filter properties to telecommunications
- E. Understand the modulation of an AM signal
- F. Design a basic AM receiver unit
- G. Design an FM transmitter and receiver
- H. Understand the operation of pulse code modulation (PCM) in a digital link

Major Topics

- A. History of Telecommunications
- B. Signals and Bandwidth
- C. Noise and Interference
- D. Filters
- E. Basic Modulation
- F. Amplitude Modulation
- G. Frequency Modulation
- H. Pulse Amplitude Modulation
- I. Sampling and Quantization
- J. Pulse Code Modulation
- K. Digital Keying

Materials:

Textbook: To be determined, possibly *Basic Telecommunications: The Physical Layer*. Gary Mullett, Thompson-Delmar Learning US, 2003, ISBN: 1401843395

Supplemental Resources: *Introduction to Communications*, Gregory D. Durgin, BFM Wireless Curriculum Design Team, 2002.
Global Wireless Educational Consortium (GWEC) website: <http://www.gwec.org>.

No new equipment needed.