

ABA Engineering Academy – Radio Engineering Class

Basic outline of subjects that will be covered.

Basic Electronics...

- a. Electron flow
- b. Ohms Law
- c. Resistors, Capacitors, Inductors
- d. DC versus AC basics
- e. Frequency and Wavelength
- f. Power basics
- g. Reactance
- h. Vacuum Tube theory
- i. Transistor theory
- j. Logic Gates
- k. Binary, hexadecimal numbers
- l. Basics of IT in Broadcasting

Audio Fundamentals

- a. Basics of sound
- b. Microphones, types and patterns
- c. Microphone placement
- d. Audio flow in studio
- e. Console design and operation
- f. Automation systems
- g. Basics of Satellite operations
- h. Processors
- i. Stereo generation
- j. Audio levels and meters
- k. Digital audio basics

AM Transmission

- a. Basics of sine waves
- b. RF frequency spectrum
- c. Basics of AM modulation
- d. AM transmitters
- e. AM antennas
- f. Basics of AM ground systems
- g. Discussion of wavelengths
- h. Basics of matching networks
- i. Directional AM theory
- j. Formulas used in AM

FM Transmission

- a. Basics of FM modulation
- b. FM transmitters
- c. Transmission lines
- d. FM antenna theory
- e. Discussion of FM system gain measurements
- f. Discussion of standing waves

Station Operation

- a. FCC Rules and Regulations
- b. EAS Operations
- c. Safety Issues
- d. Engineering Management
- e. Basic maintenance items and schedules
- f. Review of basic formulas used in Broadcasting