

# ABA Engineering Academy – Television 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 (5.1 audio)
- j. Audio levels and meters
- k. Digital audio basics

### Television Transmission

- a. History of Television Broadcasting
- b. Basics of NTSC transmission
- c. Basics of Color generation
- d. Signal flow in Broadcast Operation
- e. Digital Television overview
- f. Creation of digital transport stream
- g. Basics of PSIP
- h. MPEG compression
- i. 8VSB modulation
- j. Television transmitters (solid state and IOT)
- k. Transmission line and antenna
- l. 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

Classes run from 8:30 AM to 4:30 PM Monday through Thursday. Friday will start at 8:30 AM with a review and question time, followed by the SBE Certification exam (for those wishing to take the exam). Students will be given 3 hours to complete the exam.

All Classes are held at the ABA Engineering Training Facility, 2180 Parkway Lake Drive Hoover AL 35244. Office number 205-982-5001 or 800-211-7992.

Once registered for the class students will receive an electronic version of the study guide and will receive a personal printed copy on Monday of the class.

For information concerning hotel accommodations contact Pat Attaway at the Homewood Suites 205-637-2900 (ask for ABA rate) or you may contact Lesa Rice at the ABA 800-211-5189.

Larry Wilkins CPBE®  
ABA Engineering Academy  
334-303-2525  
[lwilkins@al-ba.com](mailto:lwilkins@al-ba.com)  
[www.al-ba.com](http://www.al-ba.com)