infoCommAcademy

- Essentials of the AV Industry
  - Welcome
    - Introduction
    - How to Take This Course
    - Quizzes, Section Tests, and Course Completion
    - A Digital and Analog World
  - Audio
    - Dynamics of Sound
      - Audio Essentials
      - Sound Waves
      - Human Hearing
      - Wavelength of a Sound Wave
      - Frequency of a Sound Wave
      - Tone and Pitch
      - Harmonics
      - Decibels
      - Amplitude and Loudness
      - Inverse Square Law for Sound
      - Introduction to Acoustics
      - Acoustics
      - Properties of Acoustics
      - Ambient Noise
      - Section Test
    - Capturing Sound
      - Audio Transduction
      - Dynamic Microphone
      - Condenser Microphone
      - Phantom Power
      - Ribbon, Ceramic, and Crystal Microphones
      - Microphone Physical Design and Placement
      - Microphone Pickup Patterns
      - Microphone Sensitivity
      - Microphone Frequency Response
      - Microphone Impedance
      - Wireless Microphone
      - Microphone Cables and Connectors
      - Section Test
    - Audio Processing
      - Signal Levels
      - Gain
      - Audio Mixers
      - Audio Processors
      - Bands and Octaves
      - Equalizers
      - Switchers
      - Distribution Amplifiers
      - Delays
      - Power Amplifiers
      - Loudspeakers
      - Balanced and Unbalanced
      - Component Packaging
      - Audio Recording
      - Audio Processing Summary
      - Section Test
    - Digital Audio
      - Digital Audio Signals
      - Sampling Rate of Digital Audio Signals
      - Bit Depth of a Digital Audio Signal
      - D-A Conversion

- Digital Audio Summary
- Section Test

Audio System Setup
- Audio Systems
- Sound Reinforcement and Reproduction
- High-Pressure and Distributed Systems
- Feedback
- Audio Signal Distortion
- Section Test

Specialized Audio Systems
- Specialized Audio Systems
- Intercom and Paging Systems
- Noise Masking Systems
- Mix-Minus or Local Reinforcement Systems
- Simultaneous Interpretation Systems
- Section Test

Audio Chapter Summary
- Audio Chapter Summary

Visual

Vision and Light
- Visual Essentials
- Introduction to Vision and Light
- Vision and Perception
- Light
- Wavelength, Frequency, and Amplitude of Light
- Behavior of Light
- Mixing Colors of Light
- Defining Color
- Color Temperature
- Measuring Light
- Inverse Square Law for Light
- Units of Light Measure
- Brightness and Contrast
- Ambient Light
- Light Sources
- Section Test

Display Concerns
- Display Concerns
- Displaying Information
- Monitors
- Aspect Ratio
- Aspect Ratio Table
- Determining Aspect Ratio
- The Projected Image
- Projector Optics
- Front Projection and Rear Projection
- Screens
- Screen Gain
- Screen Hot Spotting
- Front Projection Surfaces
- Rolled and Folded Screens
- Rear Projection Surfaces
- Retro Units
- Projection System Brightness
- Section Test

Display Technology
- Categorizing Displays
- Video
- Computer Data
- Analog and Digital Displays
- Scanning Methods
- Pixels
- Image Resolution

- Fixed Resolution Displays
- Resolution Standards
- Emissive, Transmissive, and Reflective Technologies
- Section Test

Display Equipment

- Types of Monitors and Projectors
- CRT Monitors
- Plasma Display Panels
- LCD Monitors
- LED and oLED
- Electronic Whiteboards
- Slides and Slide Projectors
- Films and Film Projectors
- Overhead Projectors
- Document Cameras
- CRT Projectors
- LCD Projectors
- LCoS and D-ILA Projectors
- DLP Projectors
- Monitor and Projector Summary
- Section Test

Video Signals, Sources, Processing, and Output

- Video Signal Capture
  - The Video Signal
  - Video Signal History
  - Video Camera
  - Video Camera Lens
  - Video Camera Prism and Imager
  - CCD's
  - Video Signal Building Blocks
  - Horizontal and Vertical Signals
  - Scan Rates
  - Blanking and Retrace
  - Signal Quality
  - Video Signal Bandwidth
  - Full Bandwidth Signals
  - Bandwidth Limiting
  - Luminance
  - Component Video
  - S-Video
  - Composite Video
  - RF Video Signals
  - Signal Separator
  - Y/C Separator Filters
  - Chroma Decoder
  - Matrix Decoder
  - Sending Video Signals
  - Analog Video Standards
  - NTSC
  - PAL
  - SECAM
  - DTV
  - DTV Standards
  - SDTV and HDTV
  - Section Test
- Video Signal Production
  - Video Sources, Processing, and Output
  - Video Camera Color Balancing
  - Gain and Peaking Controls
  - Video Production
  - Video Production Switcher
  - Production Switcher Functions
  - Linear Video Editing

Nonlinear Video Editing
Section Test
Video Recording
Video Recording
Recorded Information
Digital Recording Sampling Ratios
Video Tape Recorders (VTR)
Analog Video Storage Formats
Digital Video Storage Formats
Section Test
Video Output
Video Signal Processing
Time Base Correctors (TBC)
Processing Amplifiers
Video Signal Monitoring
Sync Generators
Section Test
Video Distribution
Video Distribution
Video Routing Switchers
Video Distribution Amplifier
Types of Distributed Video Systems
RF Video System Applications
RF Video System Components
Video Systems Summary
Section Test
Computer Data Displays
The Computer Data Signal
Computer Data Display Devices
Scaling
Scan Conversion
Display Color Resolution
Graphics Adaptors
Computer-Video Interfaces
ID Bits
Digital Video Interface
Computer Data Display Summary
Section Test
Display System Setup
Display Setup
Monitor Selection
Screen Selection
Projection and the Inverse Square Law
Throw Distance
Digital Display Alignment
Viewer Placement
Keystone Error
Brightness and Contrast Adjustments
Creating Images
Section Test
Visual Chapter Summary
Visual Chapter Summary
Audiovisual Systems
Audiovisual Systems Integration
Audiovisual System Essentials
System Applications
System Goals
Creating a System
Active and Passive Systems
Subsystems
Section Test
Subsystems
Lighting Systems

- Lighting Systems
- Systems for Conferencing Applications
  - Systems for Conferencing Applications
  - Audio Conferencing
  - Web Conferencing
  - Videoconferencing
- Electrical Systems
  - Electrical Systems
  - Electrical Power and Distribution
  - Current
  - Voltage
  - Resistance and Impedance
  - Power
  - Ohms Law
  - Electrical Circuits
  - What is Grounding?
- Signal Management
  - Signal Management Systems
  - Rack Building Considerations
  - Signal Integrity
  - Distance Limits
  - Wireless Signals: IR and RF
  - Wire and Cable
  - Conductors
  - Insulation
  - Shield
  - Jackets
  - Cable Types
  - Connections
  - XLR
  - Phone Plugs
  - 3.5mm Mini's
  - TT
  - RCA
  - F Connectors
  - D Sub Connectors
  - RJ Connectors
  - BNC
  - 13W3
  - DIN
  - Speakon
  - Captive Screw
  - DVI Connectors
  - EBY
- Control System
  - What is a Control System?
  - Control System Functions
  - Control System Components
  - Control System Interfaces
- Computer Systems
  - Computers 101
  - Computer Networks
  - Network Architecture
  - Network Topology
  - Network Hardware Identification
- Audiovisual Networking
  - What is AV Networking?
  - Benefits of AV Networking
  - Network - Enabled Equipment

Summary

Audiovisual Systems Summary

Course Completion

- Course Evaluation

Course Bibliography
Course Acknowledgments
Thank You