Networked AV Systems Course Outline

Network Basics

The OSI Model

The OSI Model
Upper Layers of the OSI Model

The Transport Layer

Transport Layer Protocols
Ports
Encapsulation

The Network Layer

Layer 3 Network Classifications
IP Addressing
IPv4 Subnet Masks
IPv4 Address Types
IPv6
IP Headers
Routing
Layer Addressing Services

The Data Link Layer

Layer 2 Addressing
Layer 2 Topologies
VLANS

The Physical Layer

Physical Layer Cabling
Fiber Optic Cables
Wi-Fi

Network Analysis

Network Analysis

Network Analyzers
Introduction to Wireshark
Viewing Network Traffic
The User Interface

Create a Capture
Filters
Guided Scenarios

Network Applications

Streaming

Content Compression and Encoding
Multicast
IGMP
Protocol-Independent Multicast
Streaming Demonstrations

Digital Signage

Digital Signage Networking
Digital Signage Media Players
Streaming Media
Digital Signage Management
Locally Stored Content
RSS
Database Feeds
Simple Signage Networks
Internet Storage Solutions

Conferencing

Conferencing Session Protocols
Gatekeeper and SIP Servers
Multipoint Control Units
Bandwidth Requirements
Conferencing Over a Firewall

Security

IT Security for AV Applications
Identify Security Requirements
Risk Registers
Mitigation Plan

Service Level Agreements

What is a Service Level Agreement?
How SLA Requirements are Discovered
What is Included in a Service Level Agreement?
Bandwidth
Bandwidth Management

Latency
Packet Loss

Remote Monitoring and Management

What is Secure Remote Monitoring and Management?
SRMM Configuration and Troubleshooting Options
Monitoring Requirements
Security Requirements for SRMM Architecture