

- Optical System Overview
- Projector Operating Room Environment
- Illumination Noise Sources
- Screen Illumination Noise and Color of Illumination Noise
- Screen Black Level
- Room Reflection Background
- Acoustic Properties of Room/Projector
- Light Sources: Mercury and Xenon
- Bulb Chemistry and Physics of Operation
- Electronic Ballast Info and Trends
- Lamp Operating Parameters
- Bulb Lifetime, Definitions, and Pareto of Death
- Spectral Output of Hg and Xe Lamps
- Xe Bulbs
- My Dream Light Source
  
- Illumination Systems
  - Illumination System Types and Characteristics
  - Light Engine Illumination Layouts for Different Modulators
  - Illumination System Component Parts, Name, Function, and Operation
  - Example Layouts of DMD, LCD, and LCoS Illumination Systems
  - Illumination System Tradeoff Matrix
- Spatial Light Modulators: DMD, LCD, LCoS
  - Reflective SLM's, Performance Parameters, and Issues
  - SLM Function in Illumination System
  - Example Reflective SLM—DMD Layout
  - Polarization SLM's, Performance Parameters, and Issues
  - Transmissive Polarization SLM
  - Reflective Polarization SLM
  - Example Reflective Polarization SLM—LCoS Layout
  - Aperture Ratio
  - SLM's in Research & Development Based upon Other Optical Methods
  - SLM Tradeoff/Comparison Matrix
- Imaging and Mapping Systems
  - Transforms from Object Plane to Image Plane
  - First Order Optical Imaging Properties: Magnification, FOV, OAL, EFL, etc.
  - Zoom Lenses in Digital Projection
  - Human Visual System
  - Tilted Object and Image Planes

- Modulator Offset: Definition, Performance Costs and Benefits
  - Projection Lens Performance Parameters, and Specification
  - Telecentric Property of Lenses
  - Image Keystone: Cause and Correction
- Optical System Performance
  - Illumination Decrease with FOV
  - Definition and Discussion of Étendue
  - Throughput Calculation Examples—Light from Bulb to Screen
  - Full Projector Throughput Calculation
  - Sequential Color Filter Time Average Transmission
  - Parallel Color Optical System
- Color in Digital Projectors
  - Additive & Subtractive Color Mixing
  - Hue, Saturation, and Brightness
  - Color Perception with Background
  - Chromaticity Diagram: Explanation and Uses
  - Power Spectral Distribution: Xe and Hg Sources
  - Color In Optical Elements of System
  - Color Space Conversion Matrix
  - Pulse Width Modulation of a Pixel
  - Optics Color Path and Digital Color Path Schematic
- Projection Screen Technologies
  - Optical Properties of Projection Screens
  - Performance Characteristics of Projection Screens
  - Front and Rear Screen Technology
  - Screen and Viewing Photometry
  - Screen Sizing and Geometry Rules and Reasons
  - Human Visual System Performance
  - Projection Content and Purpose Rules
- Projector System Measurement and Testing
  - Screen Lumens, Total Lumens, Illumination Uniformity Testing and Measurement
  - Solid Angle and Projected Solid Angle
  - Color Chromaticity and Chromaticity Uniformity
  - Contrast Measurement: ANSI and JBMA
  - Color Convergence
  - Projection Bulb Performance Measurements
  - Distortion, Field Curvature, Resolution, MTF, etc.

*NOTE: This is a list of the sections and some of the main topic of each section, naturally the course DVD goes*

*into greater detail on these subjects and their interactions and performance in a digital projector.*