Introduction to Entertainment Lighting Course Modules

Topic	Module	Time

Electrical Theory	• What is electricity?
	  o How is it made?
	  o How is it used?
	• Voltage, Current and Resistance
	  o Ohm's Law
	• Power
	  o Watt's Law
	• AC and DC
	• Cable basics
	• Series and Parallel
		2 hours

	• Circuit Protection – What is it? o Methods of circuit protection	
	• Single Phase and Three Phase	
	• Connector types	
	• Electrical Safety	
	• Multimeters and their use	
Introduction to Stage Lighting	• A short history of stage lights o Gas lamps, limelight, arc lamps, tungsten with dimming	3 hours

	• Incandescent lighting
	  o Lamp construction
	  o Dimmers
	  o Sine Wave Dimming	

	• Discharge or Arc lighting
	  o Lamp construction
	  o The lamp circuit
	  ▪ Power supplies
	  ▪ Relay
	  ▪ PF Capacitor
	  ▪ Ballast
	  ▪ Starter
	  o Electronic Ballast circuits	

	• Other type of lighting
	  o Neon
	  o Fluorescent	

	• LED
	  o What is an LED?
	  o How are they used?
	  o LED arrays
	  o LED dimming	

Optics and Colour	• The optic path of a light • Focusing a hard-edged image • Managing heat and UV	1 hour
	• Additive Colour Mixing • Subtractive Colour Mixing	

Moving Lights	• Making things move
	  o Standard Stepper Motors
	  o Micro Stepper Motors
	• Sensors and Feedback
		1½ hours

	• General Maintenance	
	• Fault finding examples	

Control	• Introduction to early control (analogue)
	• DMX
	  o What is it?
	  o Rules
	  o Wiring
	  o Patching and addressing
		2 hours

	• Introduction to networks
	  o Basic rules of networking
	  o Switches and cables
	  o IP Addresses and Subnets
	  o Introduction to ArtNet and sACN	