

TARGET SKILL SET FOR UT MASTER ELECTRICIANS

UW-MADISON
THEATRE and DRAMA
ELECTRICS DEPARTMENT

- Know the four basic components of a theatrical lighting system; control, dimming, load (the fixture, the effect, the whatever) and the circuit pathway
- Know the difference between the following conventional lighting fixtures: an ERS (degree differences and zooms), a Fresnel, a scoop, a strip and a PAR
- Know how to correctly hang, circuit, gel, focus and patch a conventional lighting fixture
 - Be able to instruct someone on how to hang, circuit, gel, focus and patch a conventional lighting fixture
- Know how to relamp and bench focus any conventional stage lighting fixture
 - Be able to train someone how to relamp and bench focus any conventional stage lighting fixture
 - Be able to instruct someone in the air (lift or beams) through bench focusing from the deck
- Be able to do basic trouble-shooting of a conventional fixture
 - First check to see instrument is patched correctly in board ("dimmer # @ full enter" on ETC boards)
 - next check the lamp (cross patching, observation of the lamp)
 - next check the cable (cross patching, continuity check with a multi-meter)
 - next check the circuit (cross patching, check voltage with VOM)
 - check the dimmer and dimmer rack (thru at-site observation - look for switched off breakers, swapped modules?)
 - last check the control board (anomalies in software, parked channels?)
- Know how to correctly rewire stage cable; hot, neutral and ground
 - Be able to instruct someone on how to rewire stage cable
- Familiarity with moving light equipment
 - know the inventory of automated lighting equipment (studio colors, techno-beams, & color scrollers)
 - know what components are needed for setting up automated lights (DMX cable, opti-splitters, moving fixture/EFX)
- Familiarity with DMX 512
 - what is it?
 - what is it used for?
 - how to trouble-shoot
- Know how to program and run a control console for theatrical lighting
 - At UW-Madison it is an ETC Expression 3 or Impression 2 light board
- Knowledge of the paperwork specific to the position
 - can competently complete a shop order and circuit plot from LD's plan and section
 - know how to do cardboards
 - know how to read instrument schedules, shop orders, channel hookups, cut sheets

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- know how to complete and update instrument schedules & channel hookups

Knowledge of basic electricity and safety

- Current=Amperes (A or I)
- EMF=Volts (V or E)
- Power=Watts (W)
- Resistance=Ohms (R or Ω)
- $E=IR$; Volts equals Amps x Ohms
- $W=VA$; Power equals Volts x Amps
- know how to use a VOM (Volt-Ohm Meter)

Knowledge of basic stage rigging

- able to properly terminate wire rope with Crosby clips or compression sleeves (swages)
- know the underlying principles of stage rigging (use of only rated hardware)
- able to rig a dead-hung pipe for an electrician position (Hemsley undercats or Mitchell strip lights)

Know the three kinds of knots/hitches used in stage lighting rigging

- bowline
- clove hitch
- cow hitch
- know their uses and when to use them
- able to train student crew how to tie all three

Basic knowledge of stage lighting effects

- knowledge of atmospheric effects (hazers, foggers and smoke)
- general knowledge of projection

Knowledge of basic supervisory skills

- comfortable instructing crews of 10-12 people in the execution of a lighting design from prep work through to strike
- a sense of humor and knowing when it is appropriate
- time management skills
- project management skills
- people skills ("please", "thank you", "good job", being a professional when the other person is not, sometimes a leader and sometimes a collaborator)
- basic listening skills

Knowledge of the UT Production Process

- prep, pre-hang, hang, focus, level set, tech, notes and strike
- housekeeping skills; trim cable, cover cable runs in tape or carpet. **Neatness does count!** (This includes on-deck, backstage, and in-house to be completed before tech rehearsals.)
- able to direct crews in setup of the *Work*, *Cue*, *Egress* and *Run* lights (different for each space)
- able to direct crews in setup/strike of tech rehearsal equipment (tech table, cables, cue light box)
- Know color code systems of barrels and cable.

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Knowledge of UT Electrics Geography

- UT Closet -- effects cabinet, chemicals cabinet, Mirror Ball storage, Studio Color storage Adaptors
- Behind the Blue Door -- Gobo rotators, Scrollers, DMX cable and terminators, tech tables
- 1145 -- gel, gobos, floormounts, trunions, hanging hardware, cue lights, clip lights
- Mitchell Beams -- gel extenders (someday), Two-fers, multi-cable and breakouts
- Boneyard -- practicals, fluorescents, electrified props
- Mitchell Alcove -- ladders, orange mat, boom bases, 1 1/2" pipe, side arms, hanging irons

Knowledge of basic theatre safety

- knowledge of chemicals used in electrics, along with corresponding MSDS
- knowledge of safety precautions of specialized stage equipment (fall arrest, personnel lift)
- regard all laws, codes and government agencies applicable to the work of our profession
- able to train student crew in basic theatre safety as it relates to stage electrics/electricity