

Please note that all course descriptions and curriculum detail herein are subject to change. Instructors may present course content in different sequence and/or otherwise vary course content and structure according to their wishes. Specific classes may or may not be taught on all campuses, and may be consolidated and/or eliminated due to demands of attendance, staffing, equipment, facilities, and/or space.

Lighting & Grip Training Program

Objective: To train Connecticut residents in the functions and equipment used by the lighting and grip departments.

On the suggestion of professional consultants, this program has been put together to teach both departments, which will be co-taught by a Gaffer and a Key Grip. It is vital that all grips know how the electric department works, and vice versa. Trainees who chose either of these departments as a specialty will be grouped into the same instructional unit.

Program Synopsis: The first week will involve an overview of both departments, with time spent on safety, equipment, terminology, and basics of electricity and lighting.

In the second week, students will learn about diffusion, cranes and car rigs, along with full-day exercises in setting up interior and exterior lighting setups.

The following lesson plan is defines specific subjects to be covered in the training program and is required as a basis for instruction for each component. Within the described daily and weekly framework of the program, the grantee and/or hired instructor are encouraged to supplement the curriculum as they see fit.

Because all feature film positions and departments are not currently included in the training program, the use of guest speakers is encouraged as an enhancement to the lesson plan. Recommended guest speakers for the Lighting & Grip Training Program include: Director of Photography, First Assistant Director, and Accountant.

Required Texts: Set Lighting Technician's Handbook, Third Edition. By Harry C. Box, Focal Press, 2003; The Grip Book, Third Edition, by Michael Uva, Focal Press, 1997.

Half-Day Introductory Lecture Lighting & Grip Departments

(Gaffer & Key Grip will serve as co-instructors)
Lighting & Grip

- Job Categories within each Department
- Pre-production, Production, & Post-Production
- The Director of Photography & Other Set Protocol
- Walkthrough of Grip Equipment
- Walkthrough of Lighting Equipment
- How the Equipment Works Together
- Grip Safety & Electrical Precautions
- Gaffer will Introduce & Demonstrate Lighting Equipment
- Key Grip will Introduce & Demonstrate Grip Equipment
- Wattage, Distribution, & the Genny
- Explanation of Various Rigging & Lighting Setups
- Instructor will Show how to Shape Light
 - Create a Scene with Diffused Light
 - Create a Scene with Hard Shadows

Week One, Day One

9:00 – 10:25am: Basic Introduction to Electrical through PowerPoint

- Electrical Department PowerPoint
 - How it's done
 - Different jobs
 - Interaction with grip department

10:25 – 10:35am: Break

10:35am – 12:00pm: Basic Introduction to Grip through PowerPoint

- Grip Department PowerPoint
 - How it's done
 - Different jobs
 - Interaction with electrical department
- Why Do You Specialize?
 - Shooting Grip department
 - Rigging Grip department
- Well Performing and SAFE Crew
 - Q&A on what everyone does

12:00 – 1:00pm: Lunch

1:00 – 5:00pm: History of the Union

- History of the Union – www.iatselocal52.com
 - Edison created the first motion picture studio in the early 1890s in West Orange, NJ
 - Simple, rotating structure

- 1922 – Charlie Pfeif wanted to meet with other electricians to talk about hard conditions (after working three straight days and nights)
 - Everyone started carrying green cards after the first meeting of studio technicians in 1922
 - Next, they needed a charter from the International Alliance of Theatrical Stage Employees (IATSE) (the union representing the entertainment industry workers)
 - They got the charter and Studio Mechanics Local 52 was born in 1924 – the first Motion Picture Local in the world
 - Started providing good film crews
 - Went through hard times from '26-'28 when business went West
 - Then sound came, and East had advantage for a while. Hollywood caught up in 1932 and work went out West again for 10 years
 - Around 1950, TV came and saved the NY film industry
 - A ton of commercial advertising companies opened in NYC
 - “On the Waterfront” (1950) made people recognize NY possibilities and talent
 - Originally had jurisdiction over 5 boroughs, in 1964 – Long Island, in 1994 – NY and NJ, in 1995 – DE and PA, 1998 – CT
 - Started with 625 members, now has around 3,300
- Introduction to All Reading Materials
 - Set Lighting Handbook
 - The Grip Book
 - Handouts for tying knots

Homework: Trainees will preview reading materials

Week One, Day Two

9:00 – 10:25am: Grip and Electric

- Set Etiquette
 - Communication
 - How you'll speak on a set
 - Walkie-talkies
 - Hand signals

10:25 – 10:35am: Break

10:35am – 12:00pm: Electrical Safety

Taken from:

http://www.osha.gov/dcsp/compliance_assistance/quickstarts/general_industry/index_gi.html

- Why it's Important to be Safety-conscious
 - Emergency action plan standard

- Describes the actions employees should take to ensure their safety in a fire or other emergency situations
- Fire Safety
 - Should have a fire prevention and evacuation plan
- Exit Routes
 - A clear path from anywhere in the workplace to a place of safety
- Floor and Surface Safety
 - Clean and dry as possible
 - No protruding nails, splinters or loose boards
 - Covers and guardrails over hazardous areas must be maintained
- Medical and first aid staff must be provided by employers
- Machine needs guards on them for the protection of the operator
- Safety precautions for electrical

12:00 – 1:00pm: Lunch

1:00 – 3:00pm: Grip – Knot Tying

- Types of Knots
 - Square knot
 - Clove hitch
 - Bowlen
 - Timber hitch
 - Half hitch
- Practical Applications of Each
 - Rigging
 - Safety

3:00 – 5:00pm: Grip – Reviewing of Catalogues and Equipment Overview

- Matthews Grip Equipment
- American Grip Equipment
- Modern Grip Equipment
- Norris
- JL Fisher and Company (dolly)
- Chapman

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson

Week One, Day Three

9:00 – 10:25am: Basics of Electricity

Taken from: <http://www.eia.doe.gov/kids/energyfacts/sources/electricity.html>

- What is it?
- Different Types of Electricity
 - DC
 - AC
 - Batteries
- Single and Three-phase Power (no two-phase)
- Secondary Energy Source – get it from other, primary sources

10:25 – 10:35am: Break

9:00 – 10:25am: Basics of Electricity, Part 2

- Batteries
 - Uses two different metals in chemical solution
 - Frees more electrons from one metal than the other
 - The end of the battery with the metal that frees more electrons develops a positive charge (+ side of a battery)
 - If a wire is connected, it serves to even out the distribution of electrons and when electrons flow, that is electricity
- Generators – a device that converts mechanical energy into electrical energy
- A transformer moves electricity efficiently over long distances

12:00 – 1:00pm: Lunch

1:00 – 3:00pm: Grip – Equipment

- Begin with Quizzing on Knots
- Equipment Review from Day 2
- Mechanical Aspects of Equipment
 - Grip stand
 - Flag
 - The way they work
 - Why they work

3:00 – 5:00pm: Grip – Dimensional Qualities of Equipment

- What Items are Used for On Set
 - Go through all major items
 - The way they work
 - Why they work

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson.

Week One, Day Four

9:00am – 12:00pm: Different Types of Equipment for Distribution

- Cable Crossing
- How Much Cable can be Put into a Trough
 - For orders vs. single wall extension
 - More water you want, the bigger the pipe

10:25 – 10:35am: Break

12:00 – 1:00pm: Lunch

1:00 – 3:00pm: Grip - Rigging

- Start with Quiz on Knots
- Light Rigging
 - Lights
 - Lighting support
- Camera Rigging
 - Modern Catalog and Arena rigging book
 - Stage rigging books
- Practical Exercises
 - Set something up that fails
 - Set something up that works
 - Talk about why it worked one way and failed the other

3:00 – 5:00pm: Grip – Intro to Dolly

- What it is
- How it Works
- Hands On with Dolly
 - Set up track
 - Roll dolly back and forth

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson

Week One, Day Five

9:00am – 12:00pm: Orientation on the Truck

- Bring a Teamster
- Safety of Gate
- Why Things are Tied Off
- Explain All Items

10:25 – 10:35am: Break

12:00 – 1:00pm: Lunch

1:00 – 5:00pm: Grip and Electric

- Put Lights Up
- Set Up a Dolly Setup
 - Small tabletop setup
 - Dolly shot across the front
 - Will implement everything trainees have learned
 - Shoot on video so class can watch after they shoot
 - Director and DP speak about it to trainees as well
- Students break up into their groups, depending on what they want to concentrate on
- Electric
 - Bull switch
 - Cable
 - Practice set up of lights off a generator

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson

Week Two, Day One

9:00am – 12:00pm: Electric

- Lighting
 - Color temperature
 - How it shows on film
 - Why films looked a certain way
 - Filtrations
 - Gels
 - Lights that change by themselves

10:25 – 10:35am: Break

- Lecture by Guest Director of Photography
 - Lighting to support narrative
 - Use examples from popular films

12:00 – 1:00pm: Lunch**1:00 – 5:00pm: Grip – Cranes**

- Start with Quiz on Knots
- Intro to Cranes
 - Different types
 - Different uses
- Practical Exercise
 - Set up a crane

- Have everyone sit in it and give them a ride
- Give video camera so trainees can see results of shots

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson

Week Two, Day Two

9:00am – 12:00pm: Parabolics of Light

- Soft vs. Hard Light
- Shadows and Prominence
- Why Light Falls Off
 - Why diffusion makes light softer
- Textured Materials
- Sight Lights
- Lighting Backdrops
- Set up Backlights to Separate from Background

10:25 – 10:35am: Break

12:00 – 1:00pm: Lunch

1:00 – 5:00pm: Grip – Light vs. Shade

- Start with Quiz on Knots
- Electricians make Light, Grips make Shade
 - Nets
 - Cutters
 - Butterflies
 - Overheads
 - Practical application of each item
- Introduction to Lighting Diffusion
 - Densities
 - Colors
 - Why you use them

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson

Week Two, Day Three

9:00am – 12:00pm: Electric

- Specialty Training
 - Fluorescent lights

- Chimera
 - Practical exercises with both

10:25 – 10:35am: Break

12:00 – 1:00pm: Lunch

1:00 – 5:00pm: Grip – Car Rigs

- Intro to Car Rigs
 - Modern catalog
 - Norm's catalog
 - Door mount
 - Hood mount
- Practical Exercise
 - Trainees put mount on
 - Film a short scene
 - Break it down

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson

Week Two, Day Four

9:00am – 12:00pm: Practical Exercise - Exterior Location

- Both Grip and Electric
- Trainees will Set Up
 - Why light comes through windows
 - Way the sun moves
 - Using sunlight as opposed to lights
- Simple Loadin
- Shoot at Tailgate of Truck, not just Loadin and Loadout
- Dolly Setup Involved
- Big Light Source
- Light on a Parallel
- Platform
- Scaffold
- Maybe Aerial Lift

10:25 – 10:35am: Break

12:00 – 1:00pm: Lunch

1:00 – 5:00pm: Practical Exercise, Continued

Homework: Read Set Lighting Technicians Handbook & The Grip Book to correspond with lesson

Week Two, Day Five

9:00am – 12:00pm: Practical Exercise - Interior Location

- Electric Activities:
 - Getting up lights in rooms
 - Loading and unloading truck
- Grip Activities:
 - Gel a window
 - Wall spreaders for overhead lighting
 - Ramps to get in and out
 - Scenery plug to hide a doorway
 - Do a dolly shot with a dance floor
- Load Everything On and Off the Truck

10:25 – 10:35am: Break

12:00 – 1:00pm: Lunch

1:00 – 5:00pm: Practical Exercise, Continued