

## Facility Systems and Maintenance Worker Program Shop: Power Tools Certifications Syllabus

**Time:** 16 hours

**Maximum Class Size:** 6

**Prerequisites:** None

**Course Description:** This class is part of the Facility Systems and Maintenance Worker Program. The students will be able to recognize any number of maintenance issues in a building and will be able to repair them without calling for outside help. These skills will make the LTS laborer an invaluable member of a facility team. It is important that workers using electrical tools and equipment on the job are aware of the proper use of these tools as well as the hazards associated with each. Basic safe work practices will be highlighted in this course. In addition, students will learn to use the Skil saw, compound miter saw, band saw, drill press, jig saw, router, grinder and table saw. The students will have the opportunity to become LTS certified on one or all of the tools.

### **Goals/Objectives/Student Learning Outcomes:**

- Observe basic safety rules and precautions of all power tools presented in the class
- Identify all eight power tools described in course
- Give an example of how each tool is used
- Describe three safety precautions for each tool
- Identify and utilize all PPE associated with each tool
- Select the correct blade or wheel based on the revolutions per minute (RPMs) given a variety to choose from for saws and grinders
- Remove and replace blades, bits, and wheels in a safe manner
- Demonstrate maintenance and adjustment procedures for at least three tools
- Identify and describe the primary function of a ground-fault circuit interrupter (GFCI)
- Describe what a push stick is used for
- Operate and maintain all power tools presented in class
- Understand and operate a drill press safely
- Understand and operate a jig saw safely
- Understand and operate a band saw safely
- Understand and operate a grinder safely
- Understand and operate a router safely

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### Goals/Objectives/Student Learning Outcomes continued:

- Understand and operate a table saw safely
- Understand and operate a Skil saw safely.

### Standards

#### OSHA:

- Safety Training and Education
- 1926.28 PPE
  - Head Protection
  - Hearing Protection
  - Eye and Face Protection
- 1926.151(a) Fire Prevention
- 1926.252 (c) (d) Disposal of Waste Materials
- 1926.300 Power Operated Hand Tools
- 1926.303 Abrasive wheels and tools
- 1926.304 Woodworking tools

#### Cal/OSHA:

- 1513 Housekeeping
- 1514 Personal Protective Devices
- 1520 Hand Protection
- 1521 Ear Protection

### Classroom Rules and Procedures

- All classes begin at 6:30 am and end at 3:00 pm
- Upon entering classroom, all participants must sign in and be seated by 6:30 am
- Class will consist of a combination of lecture, video, demonstration, coached group exercises, individual exercises and assessment.
- Students are required to report to class ready to work and maintain the provided PPE

### Textbooks/Readings/Materials

- LIUNA: Subpart E PPE IG/PG
- LIUNA: Subpart I Tools-Hand and Power IG/PG
- LIUNA: Electrical Tools-Operation and Maintenance IG/PG
- LIUNA: Hearing Safety IG/PG
- LIUNA: Hand Tools IG/PG
- Any proprietary tools that are supplied by the manufacturer of the equipment

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### **Tools/Equipment/Other Materials**

- Drill press
- Drill bits
- 17mm wrench
- 15/16" wrench
- Jigsaw x 4
- Jigsaw blades-different types
- Band saw
- Band saw blades-different types
- Grinder
- Grinder wheels-different types
- Router
- Router bits-different types
- Table saw
- Table saw-different types
- Skil saw x 2
- Clamps-wood
- Set of Allen wrenches
- Adjustable wrenches
- Set of combo wrench "mm and standard"
- Set of Phillips screwdrivers
- Set of flat head screwdrivers
- Combination squares x 8
- Set of vise grips

### **Personal Protective Equipment**

- 6 pairs of gloves
- 6 pairs of safety glasses
- 6 pairs of ear plugs
- 6 hard hats with attached earmuffs
- 6 safety vests
- 8 dust masks

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### Course Requirements

To receive credit for the course, participants must:

- Be present for full sixteen hours
- Participate in all classroom exercises
- Pass a written exam
- Pass a hands-on exam

### Course Policies

- Participants must be on-time and ready to work.
- Participants must return from breaks on-time.
- Participants must participate in each exercise and assignment
- Participants who are on “light duty” are not allowed to take this course due to the physically demanding requirements.

### Assessment and Grading

Participants will be assessed on the following:

- All written exams must be passed with a score of 80% or above.
- All hands-on exercises for each power tool are graded on performance and participation. They are pass/fail and must be passed with a score of 80% or above.

### Safety

Failure to maintain and use PPE may result in dismissal from the course.