

INSTRUCTOR GUIDE 1

Land Surveying Safety

STUDENTS ARE REQUIRED TO IDENTIFY:

- Alabama Right of Entry Laws
- Dangers of roadside operations
- Safety Gear - PPE- High Visibility/Reflective Vests, Hard Hats, Steel Toed Shoes
- Total Stations: These are the primary surveying instruments used throughout the course.
- Tripods: Sturdy and adjustable tripods for mounting the total stations.
- Prism Poles: Used for setting control points and targets during measurements.
- Control Point Markers: To establish control points for practical exercises.
- Construction Stakes and Flags: For simulating construction site scenarios.
- Safety Equipment: Safety vests, hard hats, and any other PPE.
- Maps and Property Diagrams: For practical exercises, especially for surveying property boundaries.

1 - PRIOR TO THE CHECK OFF:

- Review each of the items and explain the purpose.

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:


- Allow students to practice skills while others are assessed

3 - DURING LAB PERFORMANCE:

- Present student with questions that have real life job applications.
- What should you be sure to do when going over the equipment?
- What are some important things to know about the the equipment?
- Present student with real life job scenarios and ask for solutions.

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks
- Send student to the next station when available

***Student must receive at least 8  to complete this lab station.* (80%)**

INSTRUCTOR GUIDE 2

Equipment Setup

STUDENTS ARE REQUIRED TO PERFORM:

Total Station Setup

Extend legs to appropriate height for the instrument operator.

Unstrap legs and place feet equally apart (slopes require adjustment of spacing and heights).

Place instrument on tripod and attach with screw.

Plumb instrument over control point.

Adjust legs to get instrument level.

Fine tune level with footscrews.

Check plumb and adjust by moving instrument on tripod head (don't rotate).

Control Points and Traverse

Understanding control points and their significance


Avoid hard surfaces for control points. It is difficult to set up a tripod on concrete or asphalt

Use magnails or hub and tack for control

Explanation of traversing in surveying

A traverse is a connected series of control points

Closing a traverse is a mathematical calculation with specific standards for closure tolerances

***Student must receive at least
11  to complete this lab
station.* (80%)**



INSTRUCTOR GUIDE 3

Field Surveying

1 - PRIOR TO THE CHECK-OFF DISCUSS AND/OR DEMONSTRATE:

- Proper research needed prior to surveying
- Best practices and standard procedure in searching for corners
- Method to determine field measurements

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:

- Allow students to practice/discuss skills while others are assessed

3 - DURING LAB PERFORMANCE:

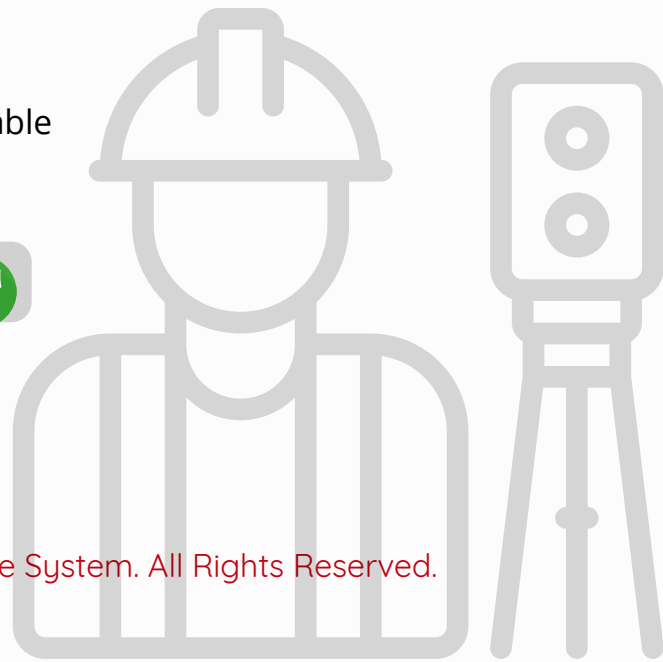
- Present student with questions that have real life job applications.
- What should you be sure to do to keep yourself and others safe?
- What are some important things to know about working around traffic?
- What are some important things to know about working around moving machinery?
- Present student with real life job scenarios and ask for solutions.

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks
- Send student to the next station when available

***Student must receive at least 6
to complete this lab station.***

(80%)



INSTRUCTOR GUIDE 4

Construction Surveying

1 - Discuss the role of surveyors in construction projects

- Show example construction plans
- Demonstrate a square building layout and how to stake the corners
- Discuss offsets and their importance in layout

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:


- Allow students to practice skills while others are assessed with an additional spotter or instructor available.

3 - DURING LAB PERFORMANCE:

- Question students on importance of accurate corners
- Have students explain the process of setting offsets
- Monitor students for accurate use of total station and traverse

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks

***Student must receive at least 12  to complete this lab station.* (80%)**



LAB PLANNING SHEET

- Identify a location. Are liability forms needed?
- Identify dates.
- Notify IC of lab plans.
- Identify an instructor. (IC can help with this if needed)
- Send instructor lab sheets to the instructor for the course prep.
- Secure equipment. If equipment is needed contact IC for suggestions.
- Plan lunch for participants (vendors?)
- Acquire:
 - Class 2 vests
 - Hardhats
 - Tinted safety glasses
 - Waters with coolers for days of the event
 - Clipboards
 - Pens
- Provide College banners/tents
- Prepare/print
 - Sign-in sheet for both days
 - Lab sheets for students (provided by IC)
 - Lab sheets for instructors (provided by IC)
 - Certificates of completion issued by the College
- Distribute student survey QR code

