TA Orientation
Lab Presentation

Fall 2019

TA Orientation

Room 220 – TA office hours office. Carpet and walls cleaned. Whiteboard installed. Blinds fixed.

Please avoid hanging or taping anything to the walls. It is a lot of work to repair damage to the walls. It is best to tape things to the side of the file cabinet or shelving, or the back of the door if necessary.

TA Orientation

Room 224 – TA office hours office. Carpet and walls cleaned. Whiteboard re-installed. Blinds fixed.

TA Orientation

Room 226 – TA office hours office. Carpet and walls cleaned. Whiteboard installed. Blinds fixed.
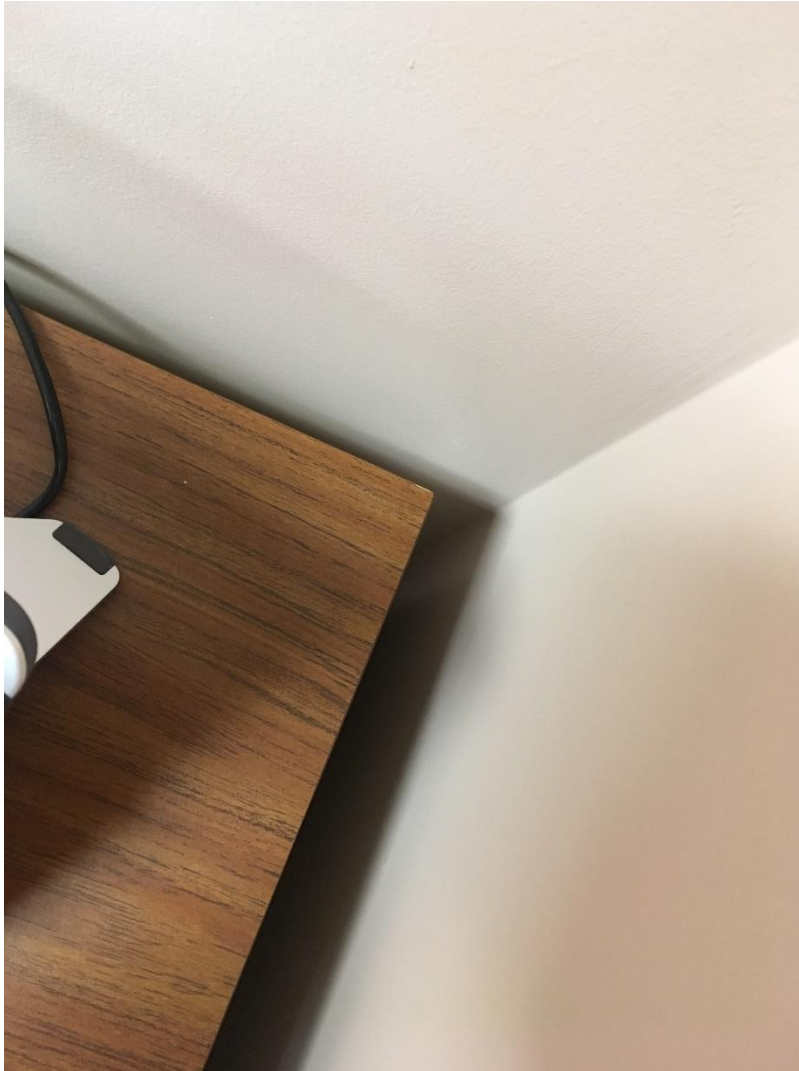
TA Orientation

Room 228 – Graders. Carpet and walls cleaned. Blinds fixed.
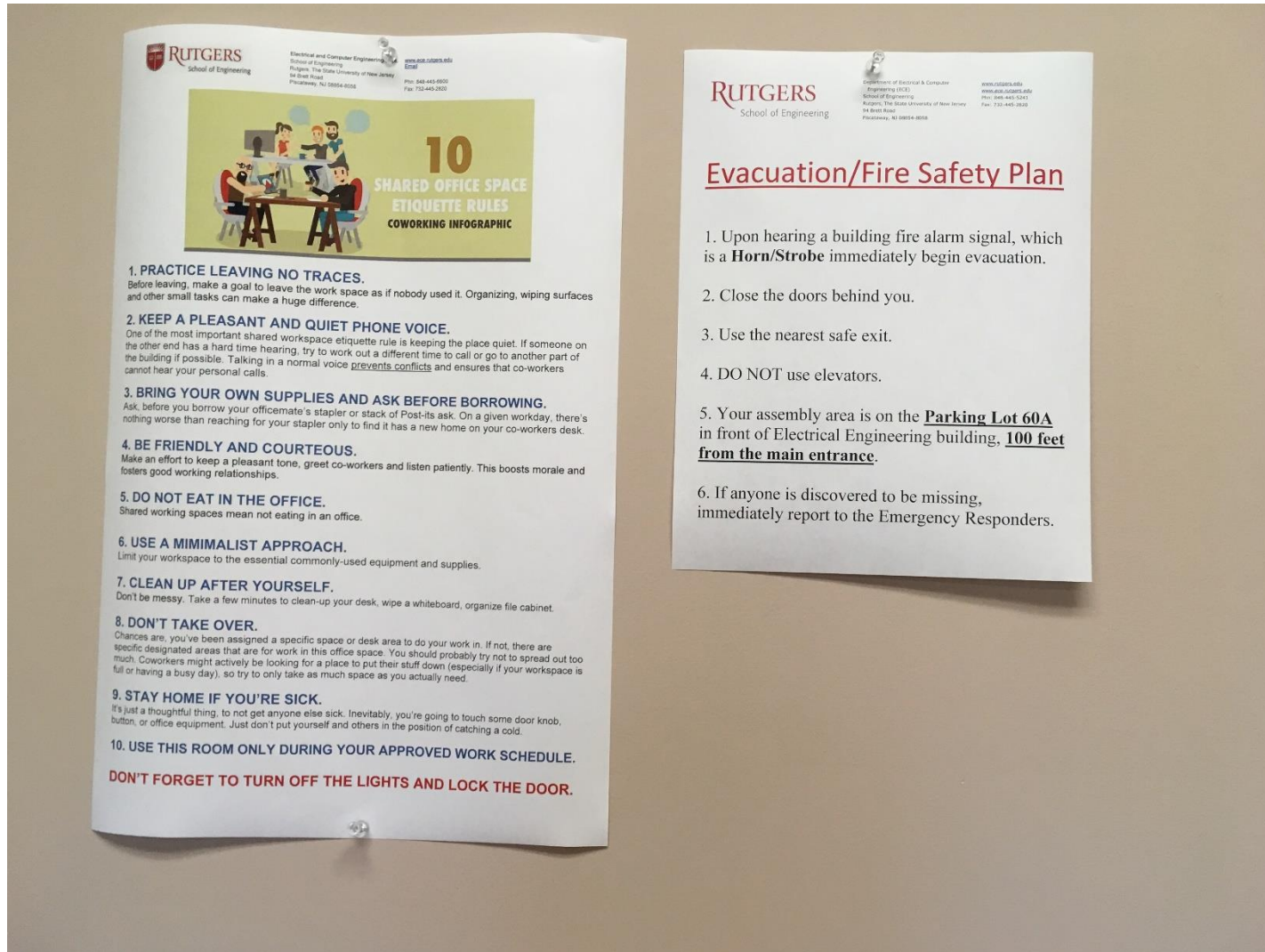
TA Orientation

Room 238 – Graders. Carpet and walls cleaned. Blinds fixed.

TA Orientation

Keep the desks where they are. There is an intentional gap between the desks and the walls to avoid wall damage.

TA Orientation

TA office guidelines. This should be the only thing on the wall.

TA Orientation

The department has recognized a need to formalize lab equipment training in the undergraduate labs. In addition, Rutgers University mandates safety training for all students and staff, which will be integrated in to the equipment training. Starting this semester, all labs will begin with student and TA equipment and safety training.

For most labs the schedule will be:

Week one – no labs
Week two – Equipment training – group A
Week three – Equipment training – group B
Week four – Lab experiments begin

The plan is that I will do the first equipment training session with the first batch of students and the TAs present. From there, the TAs will then handle the equipment training presentation for the rest of their sections. Don't panic – the training sessions are captured in various PowerPoint presentations which will guide you through the sessions.

There will also be changes to some of the experiments in some of the labs.

TA Orientation

Overview of lab 207. All three main lab rooms – 107, 205, and 207 – now have PCs at every bench, Arduino kits at every bench, permanently installed projector and screen, and ESD protection.

To reduce wear and tear on the lab equipment, and to save students setup time, we are going to leave the lab equipment setup at the benches.

TA Orientation

Lab room 209 has been reorganized and is now available as lab space.

TA Orientation

The blinds in all the lab rooms have been fixed so they will open and close properly.

TA Orientation

Arduino and probe kits.

PCs have been installed in labs 107, 207, and 209. There were already PCs in lab 205.
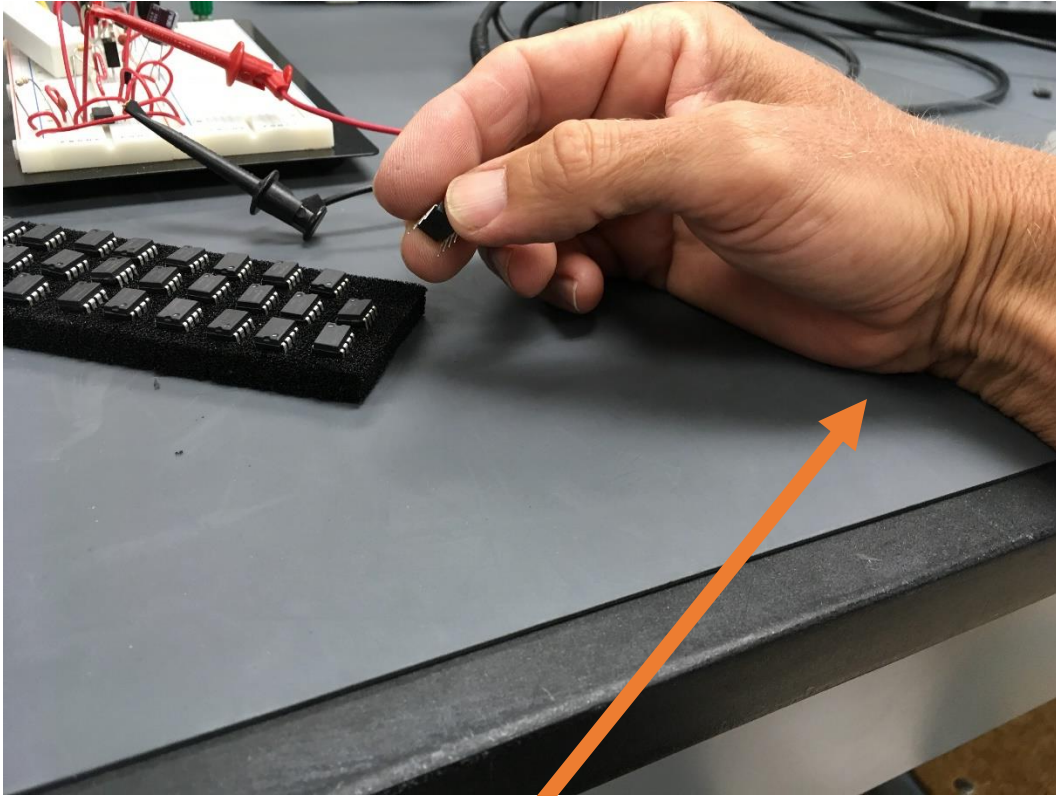
ESD mats have been installed at all benches in labs 107, 205, 207, and 209.

TA Orientation – ESD Protection

Grounding connections. Make sure they aren't disconnected
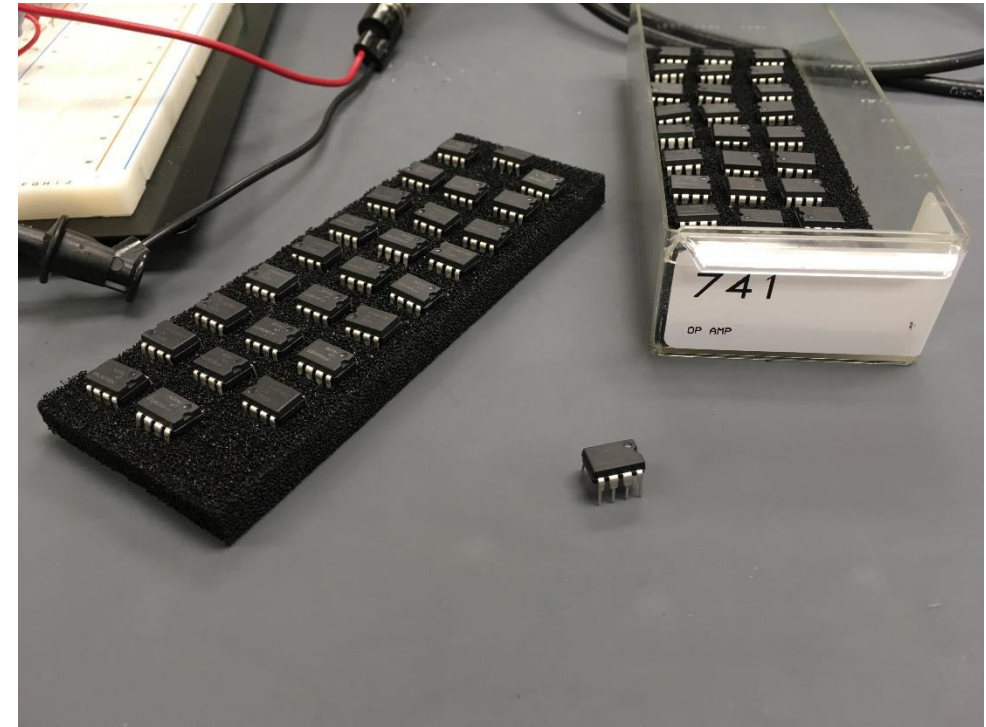
TA Orientation – ESD Protection

We are using the budget straps – keep some skin on the mat while handling sensitive parts.

Note the hand is in contact with the mat.

TA Orientation – Parts Bins

Sensitive parts should be stored in anti-static foam, and not lose in the parts bin.

Sensitive parts should be moved around the lab and to or from your bench while still in the anti-static foam. Remove the parts from the foam only at your bench and on the mat.

TA Orientation – Probe Kit

Keep all these items together in the clear plastic bin at each bench.

Extra scope and voltmeter probe accessories

Logic probe. Make sure tip is tight – they tend to come lose

Jumpers with alligator clips. More of these are hanging on the wall in the lab. Just keep these two in the plastic bin
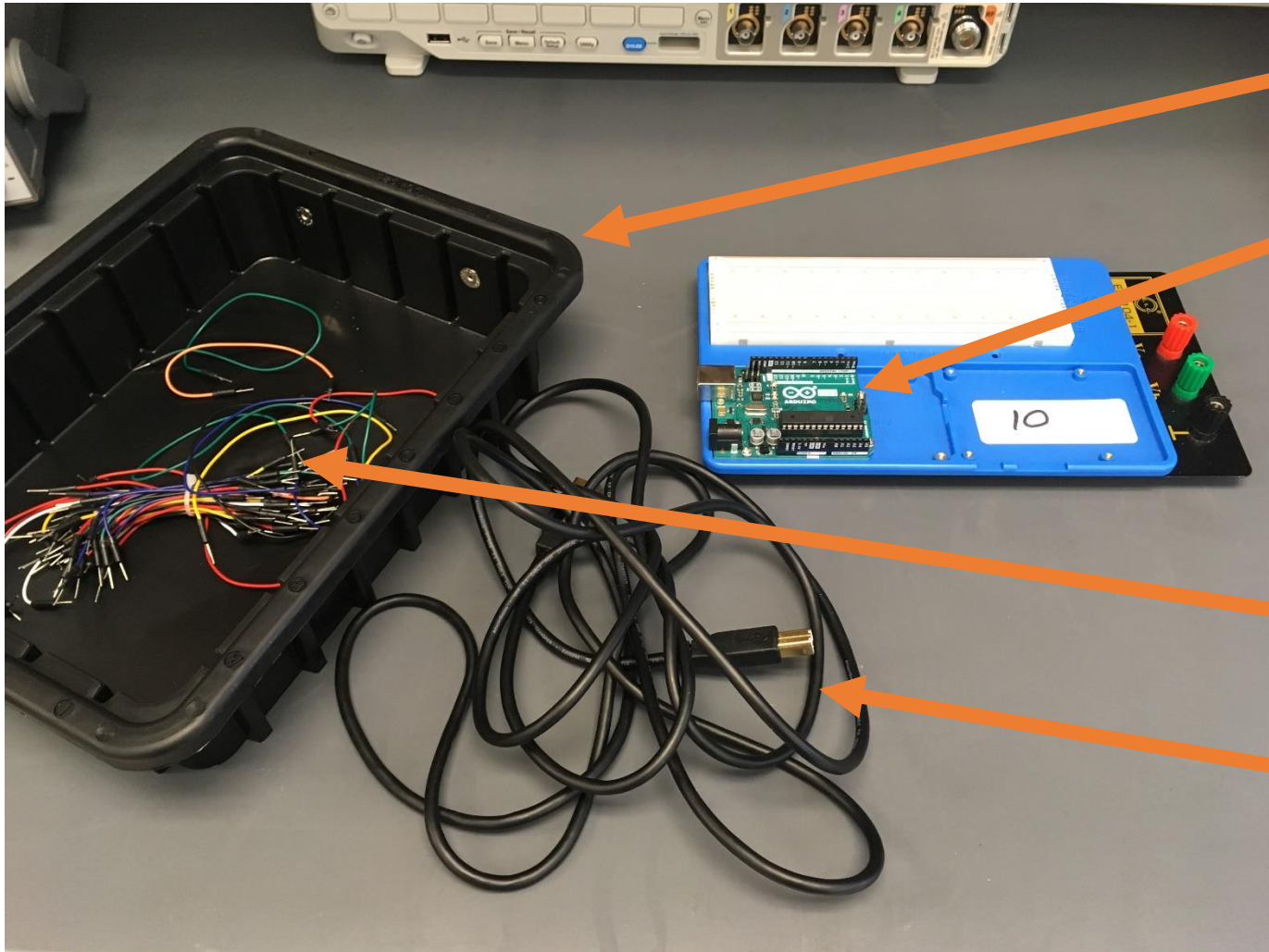
Two Tektronix scope probes

Voltmeter probes

Coax cable with BNC connectors

BNC to mini-grabber adapter

BNC to Banana plug adapter

TA Orientation – Arduino Kit

ESD safe plastic bin

Arduino and breadboard

Labs 107, 205, 207, and 209 all now have Ardunio kits and PCs with the Arduino IDE installed.

Pre-cut jumper wires

USB cable

TA Orientation

Each cabinet in the lab rooms has spare equipment – scope, function generator, multimeter, and power supply. There is also a spare Arduino kit and probe kit. The protoboards, extra wire, and tools are still in this cabinet.

Let me know if there is any broken equipment so I can check it out and get it fixed or replaced.

I plan to be in more of the labs this semester to see how things are going.
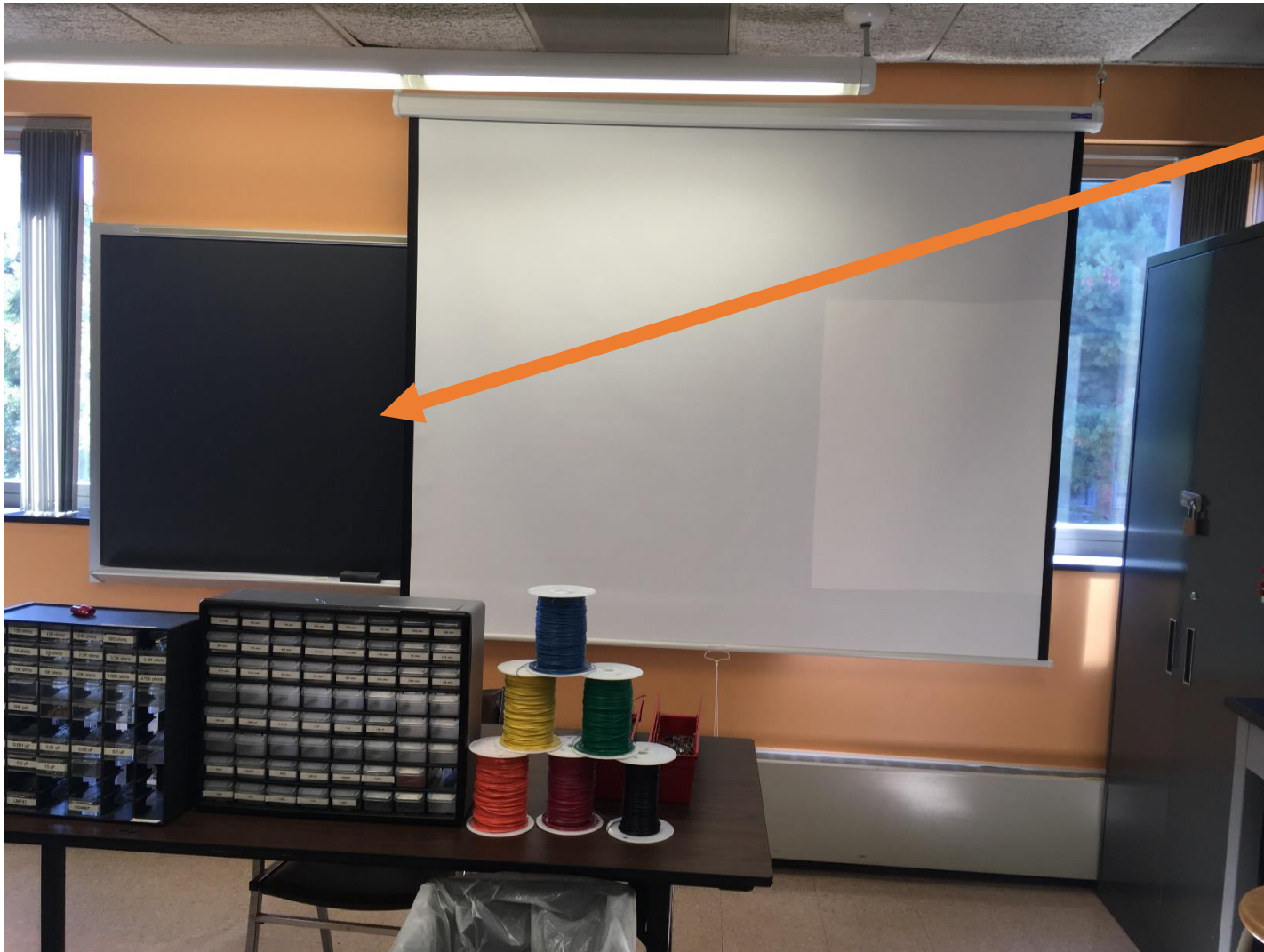
TA Orientation

There are bins in each lab room to store the used wires and components.

TA Orientation

Lab rooms 107, 205, and 207 all now have permanently installed projectors and screens.
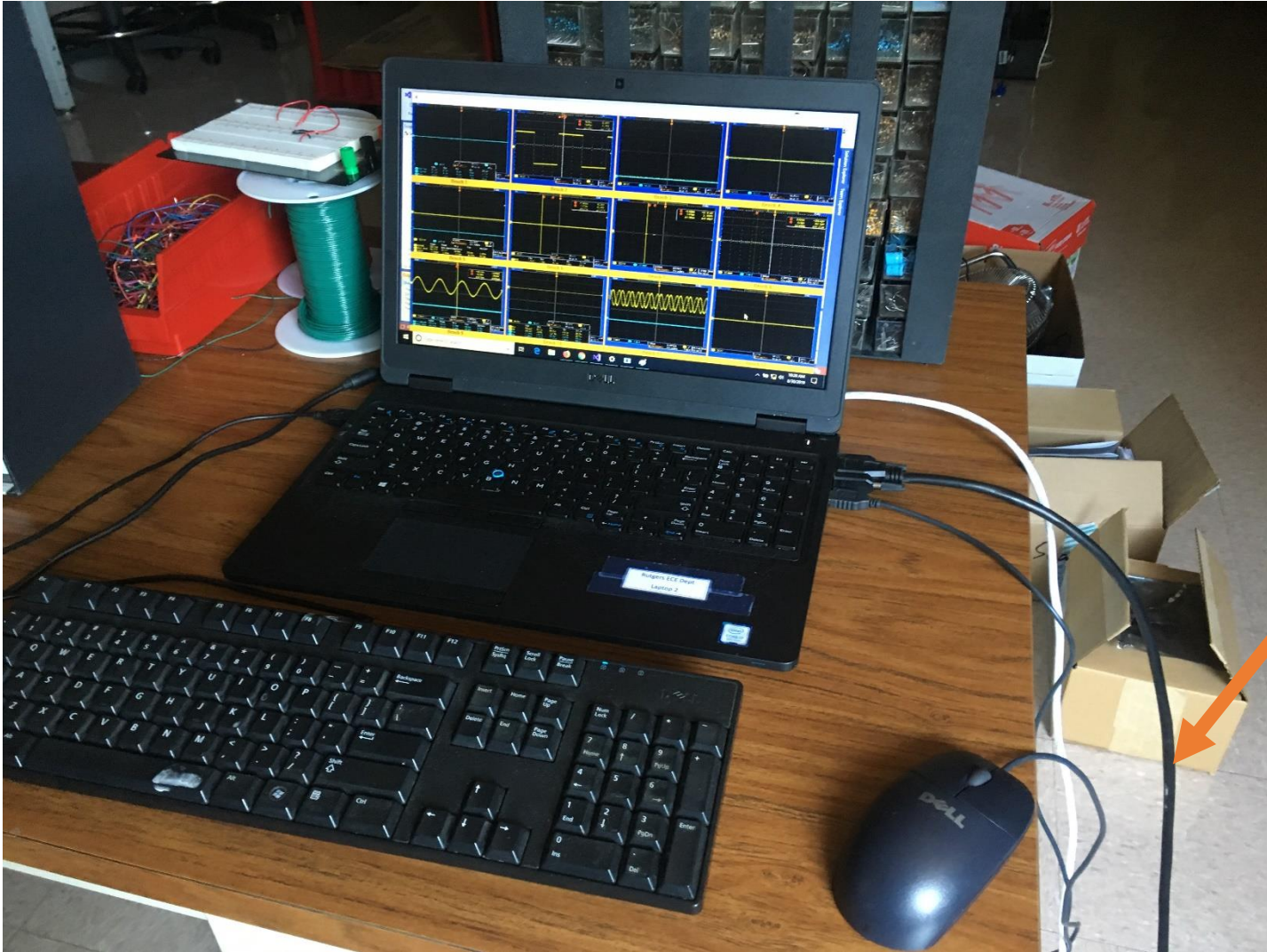
TA Orientation

The screen is intentionally offset to the right to leave some of the chalkboard still exposed for use.

TA Orientation

Pull chain on chalkboard light fixture can be used to turn off the light with all the room lights still on. This helps with viewing the projector.

TA Orientation

VGA cable is routed through ceiling and up to the desk in front of the room.
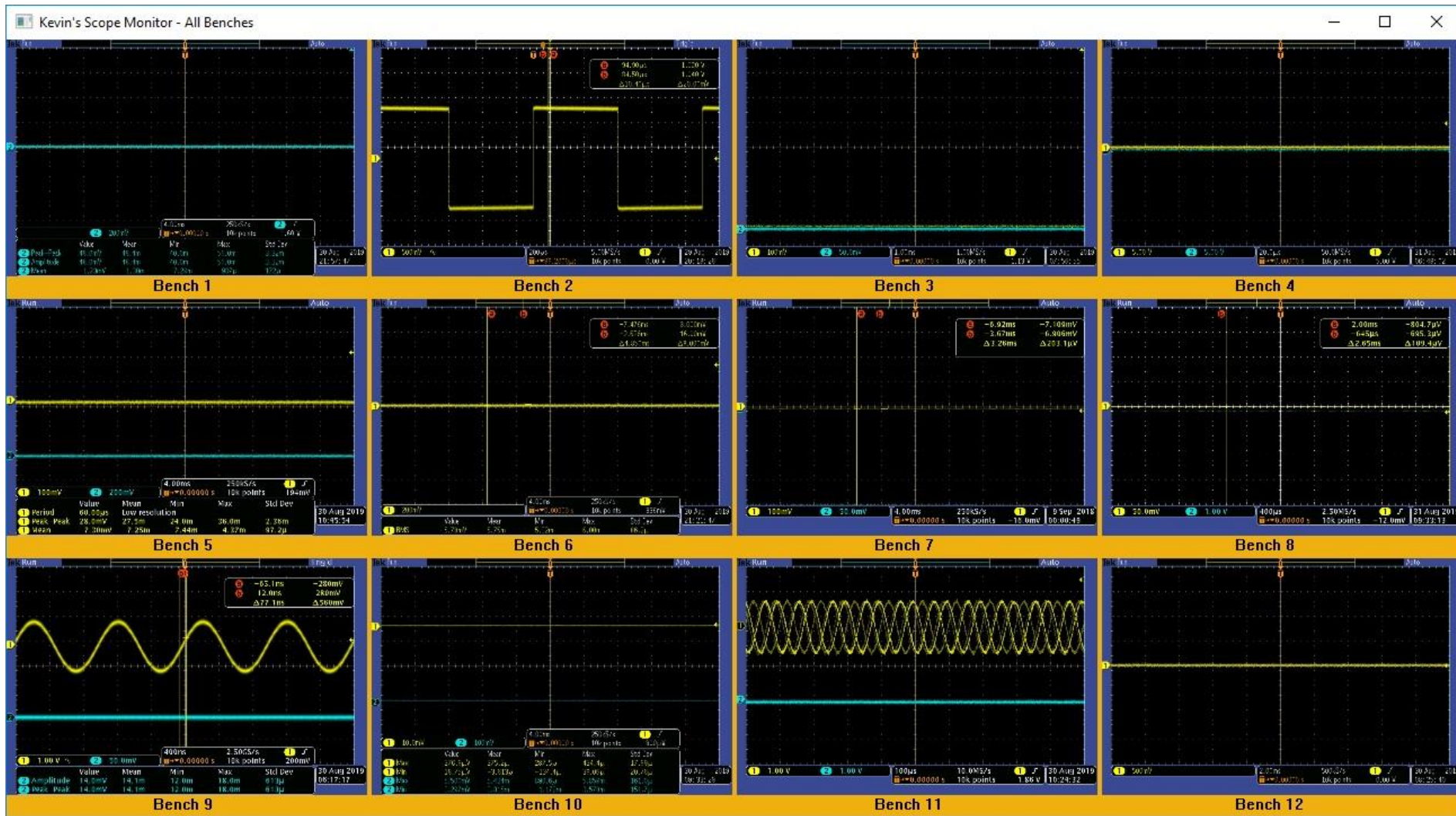
TA Orientation

All the scopes in labs 107, 205, and 207 are now networked together.
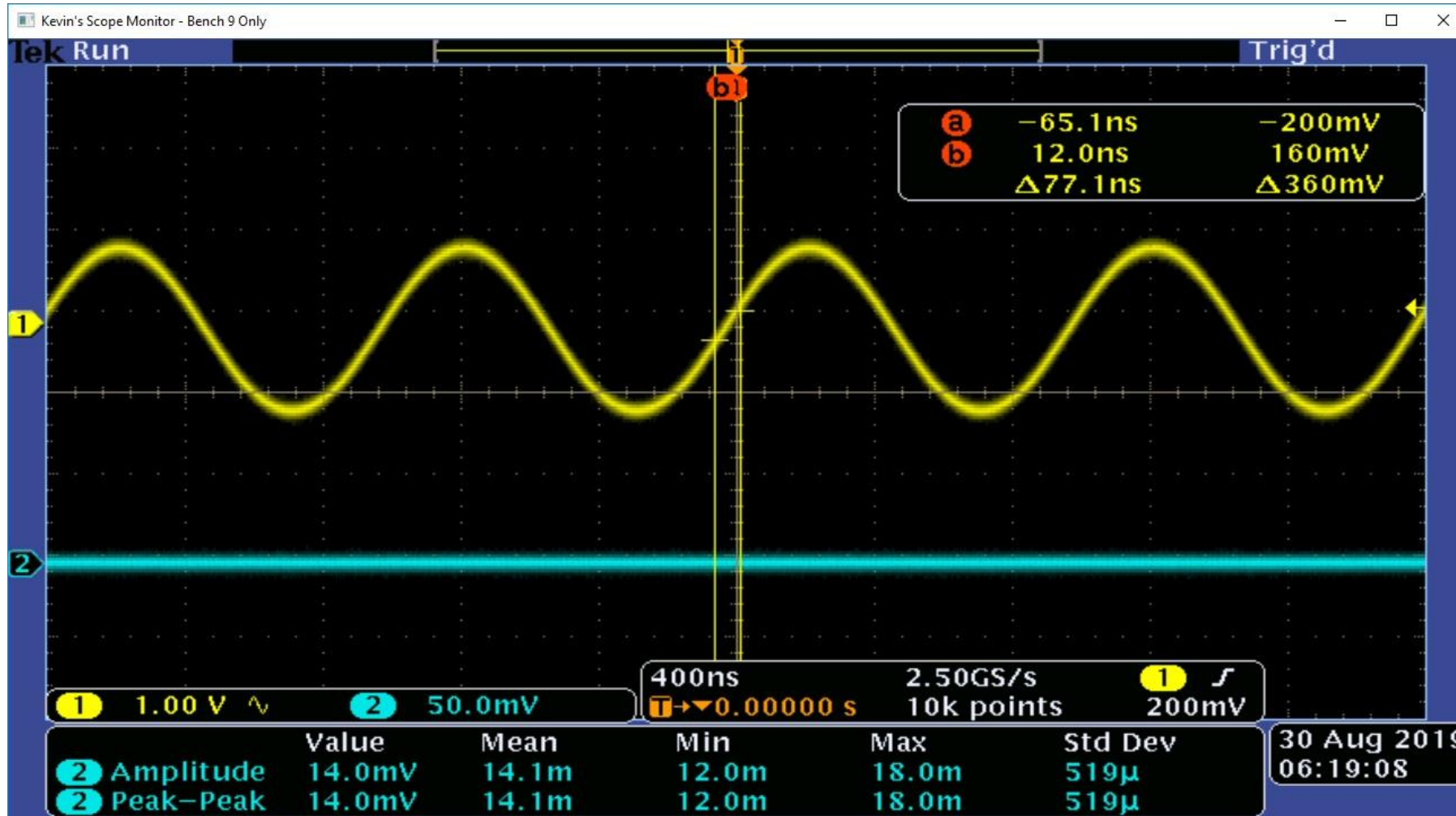
TA Orientation

There is a windows application that allows you to show all 12 scopes on the projector screen.

TA Orientation

All 12 scope screens can be viewed simultaneously. The displays are updated at least once every second for all 12 scopes.

TA Orientation

Any individual screen can be zoomed to full screen to see all the details

TA Orientation – Electrical Safety in the Lab

Lab equipment training will include electrical safety instruction.

The Rutgers REHS provided training is only general safety training – it doesn't cover anything specific to our department.