

## Teaching Staff Meeting Notes 5/19

Trying to do experiments live - with students on camera giving instructions and using the 'hands' of the lab instructor - was too **time consuming** and had safety concerns. So, we either need more people or we will just do video recordings that students can watch later. - Marcin

**Two models** - recording offline and then posting to Google Drive/ecampus or recording how the experiment is done with no voiceover or explanation and connect on Zoom during the scheduled lab time to play the short video (3 minutes, 2 minutes, bits and pieces) with a live voiceover.

Breakout rooms for teams to work separately during a live Zoom during the scheduled lab time.

Students missed doing things. Ran a simulation involving building a circuit online - it worked better than watching the video and doing the analysis.

Goal is to include more simulation, not 100% simulation nor 100% videos, but a mix of both.

Comprehensive ready experiments are tough to find, some elements are useful and others not. This takes time to plan out since there's no link that you can send with a whole experiment from beg to end. Some simulations are great because they allow students to change parameters. - Maya

Theory understanding seems to be better online. Their mastery of analysis also seems to have improved. These sides of learning went well.

The challenge for the summer is that many students are encountering equipment for the first time. Video recordings now have to be much more in-depth.

The online simulations went well for some labs but not necessarily for the mechanics lab (we **didn't get real-time measured values**).

Also, the lack of facial expressions is hard because you can't check for understanding. May ask them to turn their videos on for the summer. - Primal

There wasn't a huge deviation between students who did an in-person mid-term and those who took the final. The final was MCQs and there was **no online proctoring** involved. - Randa

**At-home** experiments are a possibility. They may not be the same experiment or the same complexity but they will at least be more involved. There is an opportunity for students to do some hands-on work. This will break up the monotony of following videos. Labs try to solve real-life situations, so at-home experiments could work. Identifying everyday problems could work. One could think of acid-base titrations without needing equipment, for example. - Ibrahim

Controls is being offered this summer and we'll upload videos to ecampus, have students run simulations and setting aside a percentage of the grade for coming to the lab. - Shameel

Build a crane ... students were a little lost. We need to do something a little specific for team projects. This was for the mechanics part. Overall, having participation points helps as does asking questions (especially open-ended questions) throughout but often those who need help may lag behind those who are focused. Students have had problems with the technology (quizzes on ecampus).- Primal

There are sandbox applications online – students can build, take screenshots and send files. Check out **Algodoo**. – Shameel

### **Other Resources**

<https://soundcloud.com/user-607324765/tlbuzz-episode-6-teaching-labs-courses-remotely> - This is a podcast and it's two months old but there is some good stuff in there.

Check out McGraw Hill Resources

Pandemic Pedagogy Facebook page – join and search 'lab' and it'll pull up specific posts about labs, a lot of the discussion is about anatomy/bio labs but there are some very useful posts

<https://nerdist.com/article/ikea-how-to-build-forts-at-home-instructions/>

[https://virtuallabs.merlot.org/vl\\_ee\\_science.html](https://virtuallabs.merlot.org/vl_ee_science.html) (Engineering)

<https://docs.google.com/spreadsheets/d/18iVSlEoqKjj58xcR8dYJS5rYvzZ4X1UGLWhl3brRzCM/edit#gid=0>