

## FAQ: Distance learning

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- What is the recommended speed for the internet connection?

According to Zoom 3Mbps. We suggest much higher.

- Does the customer or school need to have zoom-pro plus add-ons as well?

Yes. Free account with number of participants more than 2 has a limited meeting time of 40 minutes which is in most cases not enough. <https://zoom.us/>

Therefore at least a pro-account version of Zoom with the webinar packages is necessary.

- Should the lab instructor stay at the time of experiment or can he leave?

At least one lab instructor must be present at the workstation to set up the experiments, give access to different students, change the set-ups on the hardware if necessary and for safety reasons.

- For which applications is the remote control thought, can it be implemented for chemical engineering?

The remote control application can be performed on any experiment set-up.

- How is it possible to implement the camera at the stand to show that the stand is running if the student changes the settings?

By using one stationary camera facing towards the experiment stand. This way, the student is seeing the screen share of the stand together with the camera.

- If I have only one camera, can I show close-ups or details which might be important for the students? If we use camera to see the equipment, is it possible to access the camera and Labsoft at the same time (in Zoom)?

Yes, the main server's Laptop/computer is connected to the camera and is the host of the Zoom meeting. The image from the camera is shown in the meeting. At the same time, the experiment stand's computer is sharing the screen and therefore, students can perform the experiments and at the same time see the changes in the stand.

- How many students can perform the same experiment remotely at same time?

One, as remotely performing the experiments means nothing but remotely controlling the mouse. Similar to during an in-person lab meeting, only one student can be taking over the mouse to control the instruments or software.

- Does the lab Instructor choose the student who can control remotely, or can the student control remotely directly, and how do the students know that experiment is free to use? to avoid any conflict with other students.

The Lab instructor should allow remote access to the designated student from the experiment stand. Here it is necessary for the lab instructor and the students to communicate. Once a student has performed one experiment, the instructor can allow access to the next student.

- A typical lab procedure on IMS equipment is that the students do work in different groups on some of the subsystems simultaneously first before they assemble it to a complete system. How does that work in remote mode?

There are of course many limitations when it comes to an online group work. However, it is possible to manage to fulfill this purpose partially and it depends on the instructor and the groups to arrange their tasks and teamwork strategies. This option is thought as a temporary solution to conditions coming up with social distancing and it is not meant to replace the in-person labs once the situation is back to normal.

- Will the time of use in remote control be limited by some type of condition?

No.

- Can the students zoom in and zoom out to see the screens and camera image better?

Yes, it is possible to zoom in or out on the shared screen to see more detail. However, the zoom of the camera that is directed to the equipment cannot be controlled remotely. It must be operated by the lab assistant. The student can make the respective request to zoom in or out, depending on what he/she wants to see.

- That means as long as zoom works, the remote control works?

Yes. However, there are other options for remote control beside Zoom application. For instance, VPN connection or other platforms with remote control capabilities such as Microsoft-Teams.

- We are not allowed to use zoom at our university due to security issues. is it possible to do the same with MS teams?

Yes, it is possible to take control of shared screen using MS Teams as well.

<https://support.microsoft.com/en-us/office/share-content-in-a-meeting-in-teams-fcc2bf59-aecd-4481-8f99-ce55dd836ce8>

- Only working on zoom, or any other software with remote control option. What is really the advantage of zoom?

Zoom application is already well known for many schools, colleges or universities. Moreover, it offers a whole package of features at the same time. This has the advantage that you do not require to use another software.

- Will such distance learning be used for trainings? Will any trainings be conducted by Lucas-Nuelle headquarters in Kerpen this way?

Yes, we have been offering online trainings with Zoom and MS Teams.

- Will the sections of use in remote control have a manual of guide for difficulties?

There is useful information on this function in here: <https://support.zoom.us/hc/en-us/articles/201362673-Requesting-or-giving-remote-control>

In case of difficulties, you can always contact us and we will try our best to help you.

- Is it possible to send me this complete webinar?

You can find all the videos and documentation of this webinar here:

<https://cloud.news.lucas-nuelle.com/distance.learning>