Contents

Purpose:

This document is a collection of all the useful information gathered through our emails and webinar experience.

At this point, in the time of social distancing and prevention of in person events, there are many people who are seeking an alternative way to continue their workshops and internships and therefore are looking for solutions or adapted versions to replicate their workstations.

As a company which believes in blended learning and not pure virtual learning, we are offering our solutions to this problem. Here we would like to suggest two different approaches as our solution. First approach is our portable UniTrain systems. The second approach is performing webinars, this will be discussed further in detail.

Unitrain:

UniTrain – Blended-Learning Multi-Media Desktop Laboratory:

* Online learning (direct access via VPN or via VOCANTO)

* Social distancing hands-on labs

* Full portable hardware laboratory

* Students can work at home or anywhere

* Wide range of topics already available

* Easy to use, quick learning success

Immediate UniTrain online courses and hands-on topics available in the following areas:

* Electrical fundamentals courses

* Electronics courses

* Digital electronics courses

* Power engineering courses

* Power electronics courses

* Transformers and electric machine courses

* Microcomputer technology courses

* Control technology courses

* Measurement technology courses

* Automation technology courses

* Mechatronic courses

* Communication technology courses

* High frequency technology courses

* Automotive technology courses

Find more information on:
https://www.lucas-nuelle.com/305/apg/1425/Products/UniTrain.htm

Webinars:

Behind the scene of the webinars

Webinars are our second solution which gives us a way to configure every workstation and use their corresponding software remotely. This option is mainly thought for our products which are not easily portable. It gives the trainees the opportunity to carry out the experiments from home and allows the school to still provide a real laboratory experience for their students.

For this to happen, there would be the need for at least one person (the lab assistant or a technician) to be available at the workstation to configure the setup of equipment. However, with this solution, the students would still be able to remotely control each server's desktop and obtain results remotely for completion of the work.

Section 1: The equipment

Listing the optional hardware and software: even if you don't use these specific tools, the lessons will still apply, and you can recreate these steps in your own systems.

- Power point presentation

What you need to present. Theory that should help you back up the knowledge. Using the theory in our courses. Which experiments you would like to perform with the students. Which experiments you would like to pick out for the students to perform by themselves. Make sure to put enough time on each topic.

- Sign up or landing page

On your university homepage or Moodle or any platform that you generally use: create a sign up page introducing the webinar, what is going to be discussed, who it is hosted by and how often it is going to take place. Publish the necessary information and dates.

Record the name/information of students who sign up and make sure the sign ups receive a confirmation email. You can prepare an automatic pre webinar and post webinar emails for sending out the confirmation email, the reminder email and a thank you email with possibly the link to re-watch the webinar which can be only available to the students who actually took part in your webinar.

- Zoom account

Set up an account. 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.

Download the zoom application on https://zoom.us/download

- Software OBS with VirtualCam

Open source capturing tool and broadcasting software for recording and streaming live video. https://obsproject.com/

- Microphone

What we use:

-RØde RodeLink Filmmaker Kit

Other suggestions:

-Snowball Ice USB Mic

-Sennheiser XSW-D Portable Lavalier Set

- Webcam and stativ

What we use:

-Camcoder Panasonic full HD hc-v777

-Capture card Startech USB 3.0 Video Capture Device

-Sachtler stativ system

Other suggestions:

-Logitech Brio Ultra HD Pro Webcam (https://www.logitech.com/en-us/product/brio)

- Multiple camera/microphone encoder

What we use:

-Blackmagic Design ATEM mini

(No need for any extra capture card)

- Lighting
- Video editor for editing the recorded sessions

Any good video editor

Suggestion:

- Openshot, open source video editor tool that helps you cut and fix your videos more professionally before uploading it. https://www.openshot.org/

Section 2: Preparation of the zoom meeting/webinar room

Before the meeting/webinar (Video 1)

- Creating a Zoom account

https://zoom.us/billing/upgradeAccount?from=basic

These pricings change often and can as well differ according to the country. However, this is how it is in Germany at this moment.

Basic	Free 100 participants 40 minute sessions
Pro	13.99 €/month 100 participants 24 hour sessions
Business	18.99 €/month 300 participants 24 hour sessions
Enterprise	18.99 €/month 500+ participants 24 hour sessions

Depending on your needs, you can choose one of these options. Apart from this we have also seen the need to purchase the webinar **add-on** as we are using the features which are currently covered by this add-on. The features that are necessary for our webinars are: creating polls, screen sharing from both ways (host and the guests), remote control of desktop both ways, spotlight and webinar branding in webinar settings prior to creating the appointment.

- Scheduling a meeting/webinar

https://us02web.zoom.us/meeting

https://us02web.zoom.us/webinar/list

Extra "How to Zoom" playlist in Youtube:

https://www.youtube.com/playlist?list=PLKpRxBfeD1kEM_I1lId3N_Xl77fKDzSXe

Difference between a Zoom meeting and a Zoom webinar: a standard **Zoom meeting** is fully interactive and allows all participants the ability to see, speak, hear, and screen-share with each other. A **Zoom webinar** is a view-only platform where the attendees cannot see each other, and the Host cannot see the attendees.
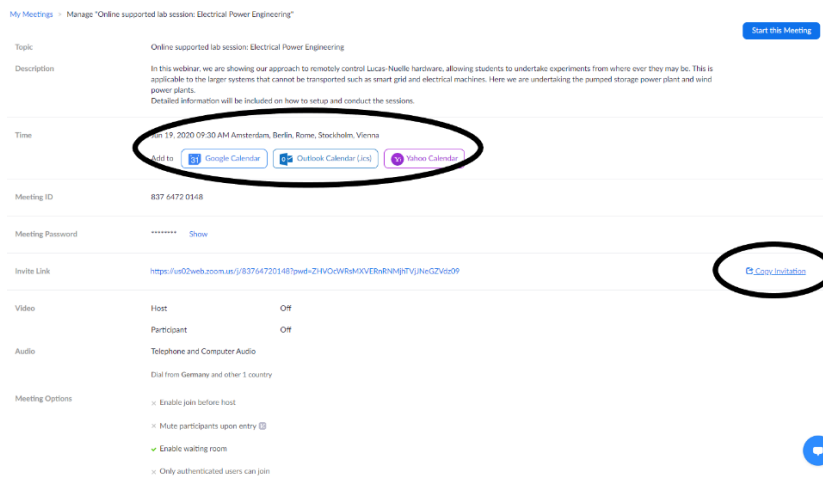
- Creating polls

Once you have already created your meeting/webinar, go to its setting and prepare your polls that you would like to activate during the webinar. For this purpose, use the Labsoft course and copy the questions of each section into the poll. This way you will be able to activate these polls at the exact

point in time where you want the attendees to answer to them and have a good overview of the given answers and record each person's learning progress.

- Sending out invitations

Send the webinar's URL using the webinar branding in Zoom or through your conventional platforms.

 Features here: Invitations, Email Settings, Branding, Polls, Q&A, Integration and Live steaming (optional) on social media.

During the meeting/webinar (Video 2)

- Pending requests in waiting room

- Making sure the audio works both ways for better communication

Configuring audio and video instruction:

https://www.youtube.com/watch?v=-s76QHshQnY&list=PLKpRxBfeD1kEM_I1lId3N_Xl77fKDzSXe&index=8&t=0s

- Camera of main server on the hardware

- Joining the experiment set-ups into the meeting as participants

- Enabling Share Desktop on the experiment set up

Now the students can see both hardware (Camera) and the shared screen (Experiment Set-up).

- Enabling remote share

Students can perform experiments one by one.

- Activating the polls

After each practice section, activate the polls of the section for the students and evaluate their learning.

- Q&A (optional) /Chat function

Students can type in their questions at any time and the speakers can decide whether to answer them live or in chat.

- Enabling spotlight

To **spotlight**, you need at least 3 participants in the meeting with their video on and can only be done by the host. Spotlight video puts a user as the primary active speaker for all participants in the meeting and cloud recordings.