Abstract
This article provides readers with insights and strategies to tackle challenges of various remote and in-person large ensemble rehearsal situations, as well as hopefully inspires others to find the opportunities through the obstacles. The authors provide tips and strategies for creating innovative and cross-disciplinary projects and providing valuable experience for the ensemble students in virtual, hybrid, and socially distanced in-person educational settings. Strategies presented are gathered from the authors’ first-hand experiences with their large orchestral ensembles (ranging from 50-70 students) during the pandemic. Finally, the authors provide insights on what has worked well, challenges faced, technologies applied, and lessons learned during the process. This paper also discusses various creative strategies to highlight collaboration and create a sense of community and belonging in a remote environment. Readers will gain ideas regarding unique teaching concepts for the music ensemble in the current environment including fully remote instruction, hybrid instruction, and in-person settings. Matters such as utilizing the audio Jamulus platform, engaging students in synchronous format, wellness for the instructor and students, finding value and motivation, and embracing technology will be explored throughout the article.

Keywords: Symphony Orchestra, Ensemble Remote Delivery, Online Music Instruction, Music, Performing Arts, Cross-Disciplinary Areas of Arts and Humanities, Innovative Music Projects
Introduction

Teaching and delivering a large music ensemble during the 2020-21 Covid-19 pandemic year was a challenge and experience we will always remember. We had to quickly alter and adapt our curriculums and delivery formats for our respective large symphonic ensembles. This was something entirely new and to successfully navigate these challenges would require all of our knowledge, expertise, experience, and skill as musicians and educators.

When the pandemic caused us to cancel in-person classes and go online entirely, people immediately asked us, “What are you going to do?” “What are we going to do?”, we constantly asked ourselves. We were looking ahead into the dark unknown with all eyes and ears open and waiting in anticipation for answers we did not immediately have. We were in a new and terrifying territory because we did not initially know what to do, and everyone we asked for feedback and ideas was also in the same situation. As conductors and leaders of our ensemble, we are often looked upon as a voice of reassurance, a physical model of confidence, and one who exudes confidence and knowledge of what’s going on. During the pandemic we found ourselves bringing a voice of reassurance and calmness to our students. We extended compassion to friends and colleagues, but more importantly to ourselves. We discovered a strength inside ourselves that we did not know existed before.

Author Omelchenko was unable to have any in-person music-making during the pandemic. Instead of having in-person concerts with a live audience during the pandemic, she had to be creative with the ensemble outcomes and delivery of performances to an online audience. Omelchenko devised the “Orchestra Series,” a series of virtual video concerts of the Laurier Symphony Orchestra which she directed, created, organized, edited, and published. The Orchestra Series is a virtual presentation of audio performances by the orchestra with videos created to accompany each piece of music. This series showcased musical works the orchestra had been working on during the year, shared their love of music with the community, and help viewers get to know the students in the orchestra through creative themed video projects. Omelchenko is truly grateful and fortunate to the student technology assistants for aiding during rehearsals and helping with technology such as Zoom and Jamulus. Throughout the body of this paper, Omelchenko shares her experience with the remote-delivery of her orchestra, creating virtual concerts, and tips for remote rehearsals utilizing Zoom and Jamulus.

Author Ferguson was able to hold fully in-person rehearsals with her ensemble and to present performances via Livestream and, later, with a limited number of live audience members in attendance. Some of the challenges of live and in-person music-making during the pandemic included physical distancing, utilizing playing masks and bell covers, reduced rehearsal times to allow for air scrubbing in the rehearsal space, and selecting repertoire that ensured students were able to study and experience symphonic literature while also reducing the number of musicians on stage.

In-Person Rehearsals and Performances During the Pandemic (Ferguson)

My university decided to go forward with face-to-face rehearsals in the Fall of 2020. The weather in South Texas is usually conducive to outdoor activity year-round, so we were able to utilize outdoor spaces for some rehearsals and other music-making activities. For example, a canopy was set up on one of our outdoor tennis courts as a rehearsal space for ensembles and students were encouraged to pursue small group and individual practice in outdoor
spaces, weather permitting. Outdoor concerts were considered as an option, but ultimately, we decided to make use of our indoor facilities for all performances.

A symphony orchestra can easily include 80-100 musicians on stage, as well as hundreds of audience members in attendance at a performance. In the early days of the pandemic, we simply eliminated live audiences and provided a Livestream of our performances with the orchestra performing on the concert stage but no live audience in attendance. Audiences were gradually reintroduced into the concert hall for live performances over several months with a variety of safety protocols in place.

The study of major symphonic literature is essential to a musician’s education and training, and my goal was to continue to provide a valuable educational and musical experience for both my student musicians and our audiences. I quickly came to the realization that orchestra during the time of COVID would not look the same as it had before the pandemic, nor was it feasible or realistic to try to make a genre that was intended to be presented in a live format with hundreds of people in a concert hall fit into a Zoom box. One day, live performances to packed concert halls will resume. In the meantime, I had to find ways to provide my students with the experiences they needed to prepare them for their future careers, and to connect with our audiences while taking every reasonable precaution to safeguard everyone’s health. The experiences during the pandemic would be different, but it was not realistic to try to reinvent a genre that was hundreds of years old and never intended to be done with reduced personnel, masks, and physical distancing.

When live audiences began to return to our concert hall, we employed mitigation and safety protocols including reduced audience size, universal masking of all persons, temperature checks, physical distancing, and regular cleaning/sanitization of the seating areas. Ticket sales were moved to online advance-reservation only. No paper tickets were printed or distributed. All attendees were also required to complete a questionnaire certifying they had neither tested positive nor been in close contact with a COVID-positive individual within 48-hours of attending the performance. Sanitizing wipes were freely provided at the entrance/exit to the concert hall and seating areas were wiped down between uses.

I shortened the duration of the performances to approximately 45 minutes and eliminated the intermission. Two performances of the same program were offered on the same day, with a 2-hour interval between each performance. This served dual purposes of allowing more patrons to attend in person, spread over two performances instead of one, and to allow for rotation of orchestra personnel. The repertoire for each performance was identical, but many of the wind and brass musicians differed between the two performances. Strings and percussion largely remained the same for both performances.

On stage, many mitigation measures were employed. In non-COVID times, string players typically share a music stand between two players of the same instrument. During the time of COVID, all string players utilized their own music stands throughout the orchestra. Sanitization wipes were provided, and all musicians were instructed to wipe down their chairs and stands before and after use. Many musicians began using tablets (such as iPads) in lieu of paper music. This use of technology replacing paper sheet music was an emerging trend before the pandemic. It has since been accelerated and I believe is likely to persist in the future.
Our preparations for performances were also different. Rehearsals were limited to 20-minute sessions, with a 10-minute break between rehearsal sessions during which all doors to the rehearsal room were opened, allowing outside air to flow into the room, and all personnel vacated the rehearsal space. Whenever possible, two rehearsal spaces were utilized synchronously, with the conductor moving from one room to the next every 20-minutes.¹

Masking of string and percussion players is simple. But for aerosol-producing instruments such as wind and brass instruments, specialized playing masks and bell covers became an essential part of their regular equipment. Our department was able to provide these specialized masks and bell covers for all our wind and brass students. Most of the aerosols produced while playing are expelled from the mouth of the player and the bell of the instrument, and utilizing masks and bell covers greatly reduces the spread of aerosols produced while playing.²

At the college level, orchestra is a class and an essential part of my students’ education. It was important to me to make sure all my student musicians were still able to participate. Therefore, I chose repertoire that required fewer musicians and rotated the wind and brass players throughout the various musical selections. Much of the larger symphonic repertoire requires multiple players of the same instrument on a part, such as 3 flutes, 3 oboes, 4 trumpets, etc. By choosing repertoire with smaller instrumentations, I was able to reduce the number of people occupying the stage at any time. Rather than assigning all musicians to play every piece, I rotated musicians on repertoire to allow everyone to participate. Any single person might be playing fewer total musical selections, but everyone still had an assignment and a part to learn and perform.

It was important to me that although I chose repertoire that required smaller instrumentations, it was still part of the symphonic literature. Chamber music initially seemed like a reasonable option, but the students already had chamber music opportunities elsewhere in their curriculum, and my goal was to continue to provide my students with the study of symphonic works.

During the 2020-2021 school years, a few students attended rehearsals and performances remotely. This would not have been a good option for a soloist or principal player, but a single player in the string section could easily join via video for both rehearsals and performances. Using a tablet (iPad) placed on a music stand so that the student could see the conductor, it was possible to interact quite normally with the student on the tablet as though they were there in the room. Other than turning on their microphone from time to time to ask a question, the student attending remotely was able to play along at home with the rest of the ensemble. This arrangement was far from ideal but allowed the student to participate in the orchestra, albeit remotely.

Remote Learning Course Development for Symphony Orchestra Ensemble (Omelchenko)

The Laurier Symphony Orchestra was remote this entire past year in 2020-21, and due to the nature of it being a music performance ensemble, is one of the most difficult courses to

¹ A sample list of orchestral rehearsal etiquette in the time of COVID is included in the appendix.
deliver remotely. Full ensemble rehearsals with all 65 musicians took place on Zoom for video and Jamulus for audio. Jamulus is an audio platform that allows players to hear others online by utilizing wired headphones, an external microphone, and good internet connection and broadband.³

To provide performance goals and to assess students’ playing and progress, the students submitted individual audio recordings of themselves playing each piece throughout each term. Then the individual audio recordings of each player were combined together to create a final combined audio recording for the Orchestra Series. This combined recording makes it sound as if everyone is playing together in the same physical space at the same time. Each student audio recorded themselves playing along to a click track and wore headphones so that the click track would not be heard in the recordings. To aid in the students’ practice and recording sessions, I created various click tracks of the pieces for them to play along with. I also video recorded myself conducting each piece so that students could also practice playing with the video of the conductor.

Creating Virtual Concerts

Instead of having in-person orchestra concerts with a live audience, I instead had to be creative with course outcomes and how to deliver performances safely to an online audience. I designed the “Laurier Orchestra Series,” an innovative series of virtual concerts of the orchestra which I directed, created, organized, edited, and published. The Orchestra Series is a virtual presentation of audio performances by the orchestra with videos created to accompany each piece of music. For the virtual performances, we were able to collaborate with the Laurier Film Studies Program and film studies students who helped assist in creating and editing videos of our performance projects. In addition, we also collaborate remotely with dancers from Randolph College for the Performing Arts and Martha Hicks School of Ballet in Toronto.

There were four Orchestra Series released in total, with each having anywhere between 4-8 pieces of music presented as well as 6-10 different video components. As the producer of the series, I worked with and supervised a great team of 10 students who helped with the audio and video edits. As the producer and director of the Orchestra Series, I devised the main vision and goals, organized a timeline for each series, created the overall production concept, and created the themes for each video presented for each series. In addition, I spent over 40 hours a week doing audio edits and combining and aligning together all the individual audio files of the orchestra. Individual audio recordings of players were combined together to create a final combined audio recording, so it sounds as if everyone is playing together. Each student audio recorded themselves playing along to a click track and wearing headphones so that the click track would not be heard in the recordings.

Tips for Preparing for Remote-Delivery of Ensemble

Full ensemble rehearsal took place on Zoom for video and Jamulus for audio. Jamulus is an audio platform that allows players to hear others online by utilizing wired headphones, external microphone, and good internet connection, and broadband. Due to technology lag issues between Zoom and Jamulus, I would often need to create a tapping sound with my

³ Refer to the appendix to view equipment suggestions for Jamulus setup.
baton to aid players to play together in real-time. Below are Omelchenko’s tips for utilizing Zoom and Jamulus for remote ensembles.

- Utilize Zoom for visual elements and Jamulus for audio (live and real-time music-making technology). Everyone should use an external mic and ethernet connect for optimal sound.
- Be clear with instructions to musicians. Give a timeline and deadlines on when materials are due (hint: give an earlier due date than you actually need them in case a few late submissions trickle in).
- Communicate clearly with audio/video editors as you are the project manager and producer. Assign small feasible projects and give reasonable turnaround dates. Have weekly consistent communication and a clear system of reviewing drafts (hint: view a video draft together on Zoom (share screen) before publishing a draft. That way you can do quick edits together on the spot. This will also save you both time and storage space on your computers).
- Share with students the instructions for audio & video recording and submissions (and keep sharing with each new project as a reminder and easy access to instructions). Be clear and specific with which file format to save recordings as this will save a lot of time and headaches down the road.
- Help musicians practice outside of Zoom! Create videos of yourself conducting the piece so they can play along with your conducting. Create options like recording a video of yourself conducting to an audio recording or have a video of just you conducting without any sound (note: students can also simply turn off the video sound).
- Click Track options and help: create various click tracks as options so musicians can choose which one to practice/record to. Some students may be distracted by hearing clicks throughout. (hint: use the same performance recording audio file for all click track options).
  Examples of options may include the following:
  o Click Track Option 1: with clicks on each beat, all the way through the entire piece
  o Click Track Option 2: with just one to two bars of intro click to start off
  o Click Track Option 3: with just click on the downbeats (especially if it’s a really fast or complex piece with changing or mixed meters)
  o Give them the tempos ahead of time so everyone can practice and record at the same bpm. This helps if the piece is pretty straightforward.
  o All use the same recording of the piece (for tempo purposes)
  o Give links to your favorite performances of the piece (hint: have them also listen to different versions of the piece).
- Reserve a week for the recording session. Giving them a week helps them to focus on just recordings and I also gave them class time to work on their recordings. Think about schedule balance and how to give them the energy they need to do good recordings. Instead of “Concert Week” I called this “Recording Week” and this worked really well and students appreciate having the time to devote to putting together good recordings.
- Share with students recording tips such as: Don’t do it all in one day, pace yourself, limit yourself to how many or how long to record each day, hydrate, room acoustics, etc.
- Create an electronic folder (school portal, google drive, etc.) for musicians to access everything: parts, audio tracks, click tracks, conducting videos. Include the score in the folder so they can refer to it as needed.

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4 Refer to the appendix to view pictures and a “Behind the Scenes” video of Omelchenko’s remote teaching set-ups for directing and conducting an orchestra ensemble on Jamulus and Zoom.
Tips for Remote Rehearsals for Ensemble (Zoom and Jamulus)

- Utilize Zoom for visual elements so musicians can see you conduct and see each other and members of their section on the screen. Everyone should be muted on Zoom.
- Devote time to getting set up on Jamulus. Take time to work out any tech issues and for everyone to get trained and somewhat comfortable on Jamulus (hint: this may take 1-2 weeks)
  - Start with smaller sections, each section (winds, brass, violins, viola, cello, bass, etc), then combine slowly together as one.
- Then take time to adjust balance and levels for each section.
  - Start with easy warm-ups, scales, chords, and a short piece with a steady clear tempo. This helps the ensemble feel successful and not frustrated early on, and gets musicians comfortable using Jamulus and sensing what is possible with remote rehearsals.
  - Do this again as needed like after winter break or spring break, as a reminder and refresher, have tech assistants give reminders again.
- How to communicate on Jamulus? Speaking tone and word choices are important. Use your voice as an audio guide. At the start of each rehearsal, I would say a hello or “Dr. O is here”. We’d start together on Zoom to touch base and connect and then go to Jamulus together. I’d say “Let’s go to Jamulus” as if we are taking a virtual field trip.
- How to rehearse on Jamulus? Often I felt like I was doing all the bad habits I was taught NOT to do in conducting class, or what I tell my conducting students NOT to do. However, I had to keep in mind that conducting on Jamulus is not the same as conducting in person. I was needing to do what was best for the musicians in the remote environment and with the technology available.
  - Test and practice with Jamulus by yourself to get comfortable! I would do this several times before the first meeting with the group. (hint: update Jamulus often)
  - Use earphones with a long extended chord (available at most stores) so I could comfortably move around in the space.
  - Left Hand independence comes in handy! I would use my left hand to adjust the sound levels and volumes on Jamulus while simultaneously conducting with the right hand.
  - Have two screens if you can. My eyes were on Jamulus dials to see the current activity and levels while the group was playing. Then on the other computer screen, I had Zoom up so I could see the players and they could see me through my camera.
  - Tap with baton on the music stand to make an audible tapping sound. They can hear these taps and it serves as a metronome to keep everyone together.
  - Give one to two bars in tempo for nothing, Count aloud to help them come in together at the same time. Let them know "2 bars for nothing. . .” and just go!
  - When counting them in, crescendo the voice to help and encourage them to come in with confidence.
  - Keep tapping the baton in tempo when stopping and giving direction so they continue to feel the pulse (hint: give comments quickly and get back to playing). By doing this, it forced me to keep my comments short, clear, and to the point.
  - Speak in the style/tempo of the music. Use the fewest words to quickly remind them of the style and mood. Such as one simple word like “agitato” or “fire” or “dolce.”
  - Give reminders during their rests like “breathe” or “wait” if someone is always early.
  - Reassure them using single words like “correct” or “close” or “basses late” and tell them right away while still conducting and playing, so they receive immediate feedback.
  - Give verbal cue on downbeats (hint: saying “tah” instead of “one” on downbeats might be easier to hear and quicker and easier to say as it begins with a clear consonant).
  - Sizzling is good and effective to use.
Sing and model what you want. Your voice is the best instrument to use on Jamulus.

Use visual cues such as:
- Thumbs up to section if they played well (quick reassurance to section)
- Stop sign with hand to indicate to stop or they are too early
- Show on hands what meter you’re in (4 fingers, 5 fingers, etc.) as this helps musicians to also have a visual reminder. Hold the hand in front of your shirt and wear a solid-colored shirt so they can see my hand clearly.
- Not everyone may be watching you all the time, and that’s ok and that’s remote learning, but it’s good to still do it to help those who are watching.

Let them play more and find obvious spots to stop. Let them play further than the spot. It’s less about where you want to stop and more about stopping at the best and clearest place for the group as a whole. This way it may be easier to get their attention to stop. They’ll know and you’ll know where it is, and soon you all become on the same remote wavelength.

If things go well let them know! And then do it again to reinforce it so they feel good and successful. It’ll remind them of the right way to play something so it’s forever engrained in their musical souls.

Jamulus can feel like a scary isolating audio void to be in. It’s not ideal or a perfect remote world, so have some fun and make it enjoyable as you can. It’s ok to cheer and be heard on Jamulus, talk in funny cartoon voices, encourage a group cheer for that soloist featured. (Rule: no booing from anyone as they are already hard on themselves).

**Lessons Learned Rehearsing Remotely on Zoom**

- Everyone was more self-conscious (including me!), people are afraid of others hearing them. There was more awkward silence and fear felt at the start of using Jamulus, but it gradually gets a bit better and more awkwardly comfortable.
- Move together as a group from Zoom to Jamulus. You can even simply say, “Now we go to Jamulus, see you there”.
- Always give a welcome or hello. Be creative and ask “If you can hear me, say Yahoo/Yeehaw/Oh Yeah!” (you’ll be surprised with the responses!).
- Be patient and just accept there’s going to be tech issues (daily) and laugh it off.
- Start class with any funny cartoon voice imitation (I liked to do Yogi bear, Scooby Do, Miss. Piggy, etc). It surprises them, gets their ears awake, and puts a smile on their face. You’ll be surprised with how often your voice helps bring calmness or joy to their day or how much they look forward to hearing your voice of reassurance. It brings excitement, shows them that they can have fun on Jamulus, and allows them to connect and make music together.
- I loved learning the students’ unique voices. I would hear their voice and get to know them by their vocal cadences. I’d guess who it was aloud, and they’d be impressed when I was correct.
- Have them say “Trumpet one here” or “This is Jake in Cello section”. This greatly helped me so I knew the part that had a question.
- Be mindful of my vocal pitch, tone, and words. Use shorter concise words and a welcoming tone. Not too high or low in pitch. Even when I was tired, I had to put my own personal feeling and selfish moods aside, and ask myself “What do they need?” “What kind of conductor/teacher do they need from me today?” “What could best serve them now, at this exact moment?” This takes a lot of personal reflection, constant adjustment, and commitment to stay focused on the group at hand and not think just about myself.
- I loved seeing and hearing people’s pets. Many times, we heard someone’s cat who loved music and would mew during rehearsals. This cat became the unofficial class mascot.
Another time we heard someone’s pet bunny munching in the background which was funny and endearing. Other sounds included traffic noise, doors opening/closing, drinking sounds, and someone’s dad yelling “Dinner time!”. It was simply precious and memorable.

- Listening skills improved. It often felt like we were playing in the dark and had to trust our ears, energy, and commit to better connect with each other.
- Hearing skills improved. I still needed to protect the ears as they are a musician’s most vital instrument. Be mindful of decibel levels and unplug as much as you can.
- When rehearsing on Jamulus, you feel like you’re plugged into another world like the Matrix. Often time when rehearsing on Jamulus, I’d be in the zone and forget where I am. Afterwards, I would unplug and look around the room a bit confused and forget where I was physically. To get back into my reality and regardless of the day, my fatigue, my stress level, or how the rehearsal went, I took a walk outside after each rehearsal, even if it was late, dark, and cold. You have to disconnect and unplug (physically and mentally), refresh the ears, and reconnect to the real world, to nature, and to life and sounds outside of technology. This daily disconnecting routine was so healing for me and helped greatly with my mental health and overall wellbeing during the pandemic. I would always feel much better and much more human afterwards.

Concluding Thoughts

Now having delivered our large orchestra ensembles remotely or in-person during the pandemic, people ask us “how did you do it?” We still have to ask ourselves, “How did we do it?”. The answer: we didn’t do it alone. We couldn’t have done it alone. We were able to do it with the support and the kind ears and hearts of others. We were able to do it because of our creative, compassionate, and inspiring students who were there for us and for each other. The reality is that we are still having to do it today. Even as one reads this sentence, we may still be delivering our ensembles virtually or in person with safety protocols. We will continue to find our resilience, determination, focus, drive, and commitment. The struggle may remain, and lessons will continue to be learned, but it’s reassuring to know we are not alone.

Upon further reflection, we are very proud of how we delivered large ensembles this past year, especially with the various challenges of teaching remotely and in person. Throughout the year, we remained positive, patient, and focused, led with compassion and flexibility, maintained high academic standards, provided a unique learning experience that contributed to student satisfaction and individual growth, and explored and learned ways to engage students remotely and in-person through various technologies. Teaching music during the pandemic has taught us new skills, new methods of engagement, and to be somewhat comfortable with technology.

Coming out of the pandemic, we have a new sense of confidence and purpose as educators, and we look forward to keeping some of the virtual elements in our in-person courses. For example, we appreciated being able to bring in guest artists virtually to provide workshops and we hope to keep these virtual opportunities for our students.

Though teaching ensembles during the pandemic has been a challenge, we can say that we are now more thoughtful, mindful, and creative educators. We aim to continue to be more aware of students’ overall well-being and their mental and emotional wellness. The pandemic has also helped us to be more intentional and meaningful in our course delivery, assignments, and methods of assessment. Teaching courses and delivering orchestra this past year has
highlighted that connection is the most important and this we wish to continue to bring into our teaching for years to come.

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Appendix

Sample of Orchestral Etiquette During the time of COVID (Ferguson)

- Masks are required for everyone and are to be worn securely at all times.
- Bell covers/bags are required for every aerosol-producing instrument in the ensembles.
- Social distancing of 6 feet is required for all non-aerosol students (strings, piano, percussion).
- Social distancing of 12-18 feet is required for aerosol students when playing/singing (voice, brass, woodwinds).
- For aerosol producers, masks should be worn while in rehearsal or performances when not playing.
- Rehearsal times will be limited to 30 minutes or less in length followed by a required 30-minute vacancy for air-scrubbing.
- Students should collect water from their instruments responsibly and cleanly. No water will be expelled onto floors or common surfaces.
- No air should be forced through the instrument or its parts to expel water.
- No air should be used to clean waterlogged keys (i.e., blowing out tone holes).
- Instrument swabs should be handled with care.
- No instrument reeds should be shared.
- No buzzing on mouthpieces as this may produce more aerosols and droplets than most other activities.
- Aerosol minimization strategies for pieces requiring extended techniques should be discussed with the course instructor.
- Students are responsible for cleaning music stands, keyboards and other touched surfaces before and after rehearsals (supplies provided).
- Do not congregate indoors (hallways, backstage)
- The orchestra rehearsal hall may be utilized as a “green room” during performances.
- Do not place instruments or cases on top of pianos, or on the arms of chairs in the audience seating.

Jamulus Equipment Setup (Omelchenko)

For remote performance-based large music ensembles, all participants are recommended to have the following for the most effective and productive implementation of Jamulus:

- Computer (laptop or desktop) with strong internet connection (Chromebooks are not recommended).
- External microphone
- Webcam (external or built into a laptop or smartphone will work). If using a smartphone or external webcam, a tripod may be essential to give your instructor the appropriate view.
- Wired headphones of highest quality possible. (Bluetooth headphones can cause latency problems)
- Ethernet chord to attach computer to internet (highest quality of internet speed as possible)
- Try to be in a quiet room without loud sounds as Jamulus picks up on every little sound.
Link to Omelchenko’s “Behind the Scenes” Orchestra Series video with introduction of remote conducting set up and conducting on Jamulus.
(Click here for video: https://www.youtube.com/watch?v=j2ik4BNf0N0)

(Example of Omelchenko’s remote teaching & conducting set up for Orchestra (left & center), and editing audio files (right))

(Examples of Omelchenko’s conducting set up and Jamulus audio control panel for remote orchestra)
References


Resources

Audacity (audio files edit together) free https://www.audacityteam.org/download/
   Note: files must be saved as “wav” to edit on Audacity

Davinci Resolve (video/audio editing)
   https://www.blackmagicdesign.com/products/davinciresolve/edit


Jamulus (online download): http://llcon.sourceforge.net/

Jamulus requirements: http://llcon.sourceforge.net/servermanual.html

Jamulus setup guide: https://www.youtube.com/playlist?list=PLWKkfa4PvoTx-e3FkCacB22E6zzfcuACp