

Remote Teaching Online for Labs, Studios, Clinicals, Practicums (LSCP) Quick Tips

****STILL IN DEVELOPMENT****

1. Communicate with Students

2. **Prioritize and Adapt:** Lab/Studio/Clinical/Practicum activities typically require specific equipment and supplies and are therefore impossible to fully translate into an online space. However, there are some steps that may work for some labs.
 - a. **Set realistic goals** and flexibility for continuing instruction under emergency conditions
 - b. **Define what the LSCPs are meant to achieve** before selecting an online alternative.
 - i. **Focus on the learning outcomes and prioritize your goals.** What are realistic goals? What are essential / priority activities and what can be eliminated?
 - ii. **Evaluate where you are** in course content and how much time you have left.
 - iii. **Review course objectives, schedule, original planned assignments:** what assessments you have left, which are essential or priority, which are flexible?
 - iv. **How do you normally use in-class time** for these priorities – how can this be accomplished online?
 - v. **Can this be done asynchronously or does it need to be synchronously?**
 - vi. **Can these be postponed** (as a last resort) until the week of April 6?
 - c. **Based on your new priorities, plan new goals:**
 - i. How can these assessments or activities be **translated online** in some manner? It doesn't have to be exact – the learning outcome is the priority, not the manner in which it is done.
 - ii. What are you going to do about high-stakes assessments such as exams or practicals? How are you going to provide feedback?
 - d. **Plan learning activities**
 - i. Decide what combination of activities will enable the student to achieve your objectives – be realistic!
 - ii. A variety of activities result in better learning outcomes – can some of your “bigger assessments” be divided into smaller units that still result in the outcomes desired?
 - iii. Divide the lab experience into smaller segments, and determine which segments can be delivered online. If you normally begin a lab session with an orientation to certain procedures or equipment, perhaps you could use a video recording to deliver the same information (although this too may be precluded by the inaccessibility of the campus).
 - iv. Put together a weekly “to-do” task list for students, including both content, synchronous or asynchronous assessments, etc.

Below are three possible scenarios based on the focus of the labs. Since your labs are likely a combination of these scenarios then you could likewise combine these recommendations keeping in mind the appropriate level of time commitment for the combined activities.

1. If the focus is on **learning techniques** and their application to specific experimental situations, consider asking your students to engage in online simulations that may cover at least portions of, if not the entirety of a protocol.

Options or Alternatives to Labs

- You might consider having your students watch **videos** of experiments; you can ask your students to first make predictions and then discuss the results.

- **Virtual labs, virtual reality or alternatives**
 - **Use your UofSC Libraries Subject Librarian** to find these. In some circumstances, a virtual lab experience might be suboptimal but adequate.
 - **Consult your professional organizations for resources already being collated**
 - **Some examples:**
 - **List of Online Labs and Simulations:** <https://in.nau.edu/its/covid19-preparation/>
 - **Jove.com – Journal of Visualized Experiments** - <https://www.jove.com/> offers over 9,500 videos demonstrating experiments, mapped to key concepts and student protocols
 - **Virtual Labs** - <http://www.vlab.co.in/>
 - **ChemCollective** - <http://www.chemcollective.org/>
 - **Lab Xchange** – free platform providing library of digital content, ability to remix content, use interactive simulations, view videos and other content regarding sciences, to view and interact with laboratory experiments online. from Harvard University, free, searchable by subject area, content type, background knowledge – Biology, Chemistry, Science/Society, Global Health/Health Science, Physics . <https://www.labxchange.org/library>
 - **PhET** - Interactive Simulations from UC Boulder, free, for numerous disciplines: <https://phet.colorado.edu/>. Resources and activities available with registration (free). Accessible sims also available.
 - **Earth Sciences** - https://docs.google.com/spreadsheets/d/12g_3nISsr2wwnVI5z-USdL5xp7fAsvKVLmqM5GFaLxk/edit#gid=215954577
 - **Biointeractive.org** - resources for online learning in the biological and health sciences
 - **MERLOT:** Curated website that provides access to resource websites for all sorts of virtual labs (biology, medical, health sciences, computer, etc.) with a searchable subject or assessment type database. <https://www.merlot.org/merlot/materials.htm?keywords=virtual+labs&sort.properly=relevance>

2. If the focus is on **interpreting experimental data:**

- Combine what resources are available to support virtual lab exercises with assignments that combine data interpretation with the experience of experimental design, hypothesis building, and self-reflexive critiques of the methods and outcomes that students develop."
- Locate datasets from the published literature that are aligned with the experiments students would have encountered in lab and develop problem sets that focus on the interpretation of the data. Resources available for this:
- Combine the experimental protocols with interspersed questions that explore the reasons behind specific steps so that students gain deeper intuition into why certain procedures are performed. In place of actually performing the experiment, students can gain a critique-based understanding of the method followed by data interpretation.

3. If the focus is on **project-based lab research**, your students have already been working on their projects since the start of the term. There is usually a “capstone assignment” in the form of a final paper, grant application, presentation, and/or poster

- Have your students switch to the capstone assignment now with an emphasis on interpreting the data they have already gathered or if they have not generated their own data yet
- Focus on having them predict their experimental outcomes and design the next experimental steps in detail.

- Divide up the rest of the semester into draft submissions of sections of the capstone that will allow you to provide formative feedback and enable your students to experience experimental design, further hypothesis building, and predictive data analysis. This approach aligns especially well with a written capstone styled like a grant application.

Studio Classes

- YouTube videos
- TCL Educational Streaming Films
- Recordings from the departments and/or past student performances or showings
- Livestream lectures
- Have students record their productions and art products (video, photos, etc.)

Resources for moving Dance-based pedagogy online:

<http://dancestudiesassociation.org/news/2020/resources-for-moving-dance-based-pedagogy-online>

Music Performance, Sound and Graphic design, Live demonstrations, video editing:

- **Avid:** <https://www.avid.com/products/avid-link>
- **Google Classroom** – easy to build collaborative documents, comments, embedding videos, etc.
- **Zoom, Skype** for scheduling time with groups and questions
- Resources for teaching production courses (continuously updated):
https://docs.google.com/document/d/115zQ_t-mS-iuhJj6GKiK9vHktelwW06yAw2Rh8SJm1c/edit